

# Knowledge Organiser

**Year 7**

Cycle Three

2023-24



Week A	Monday	Tuesday	Wednesday	Thursday	Friday
Period 1					
Period 2					
BREAK TIME					
Period 3					
Period 4					
LUNCH TIME & CANON					
Period 5			Electives 13:30-15:00		
Period 6					

Week B	Monday	Tuesday	Wednesday	Thursday	Friday
Period 1					
Period 2					
BREAK TIME					
Period 3					
Period 4					
LUNCH TIME & CANON					
Period 5			Electives 13:30-15:00		
Period 6					

# Homework Expectations

## Why is homework important?

After extensive research the Education Endowment Foundation states that students who complete regular and purposeful homework can make more than five months additional progress during their time at school and consequently achieve significantly higher grades at GCSE.

## Why is your knowledge organiser important?

A knowledge organiser (KO) sets out the important, useful and powerful knowledge on a topic on a single page (Kirby, 2015). Your KO outlines the key powerful knowledge students need to be successful in the subject for that cycle.

Each week, students will be directed to learn specific parts of their knowledge organisers. This learning is often tested in your 'Do Now' activity.

The secret to success is to regularly revisit core knowledge. This helps transfer the knowledge from the short-term memory to the long-term memory. This not only helps to make it 'stick' but it also frees up our short-term memory for day-to-day learning and experiences.

## What are the homework expectations?

You now complete your homework in a pre-printed Homework Book as opposed to the blue books.

You will have 4-5 hours of homework per week. Sparx Maths will continue to be on Mondays.

You now have three subjects per evening rather than four subjects. See the timetable below.

Complete the page of Cornell notes using the guidance on page 5.

Complete your Sparx Maths workings on the dedicated pages in your Homework Book.

Your completed Homework Book will then be an excellent revision tool ahead of, and during, assessment week. You can cover your notes and work your way through your cue column of quiz questions to test your memory.

## Where can I get help and support with my homework?

- If you find it hard to complete work at home, there is a homework club in the library every day from 15:00-16:30 where teaching assistants are available.
- If you get stuck on a particular question in your homework, you can come at breaktime or lunchtime to G67 where there will be support staff and student prefects to help you ahead of the deadline.
- If you miss the homework deadline, there is a compulsory homework catch-up after school on the same day with support staff.

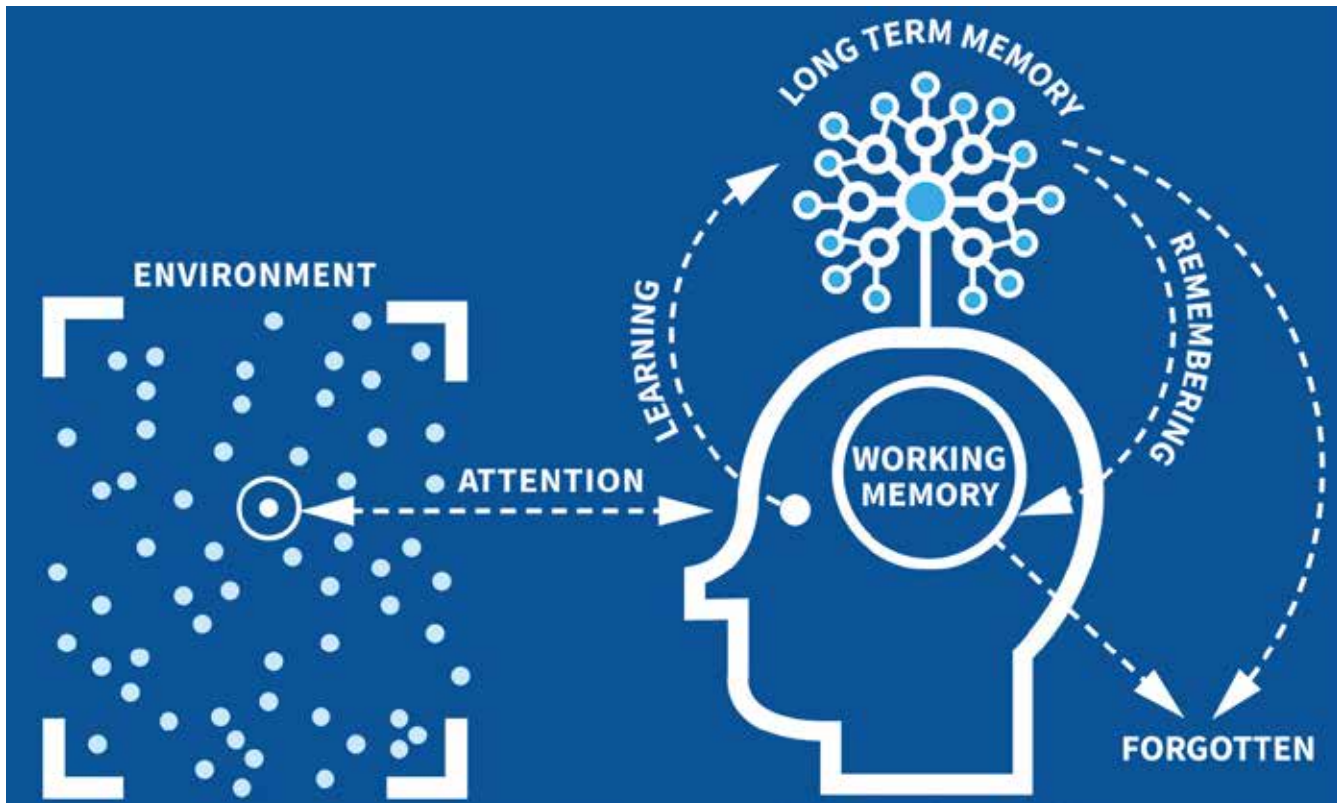
Week A	Subject 1	Subject 2	Subject 3	Subject 4
Monday	French / Spanish	History	JBACC	
Tuesday				
Wednesday	Sparx Science	Sparx Reader	Music	Geography
Thursday	Sparx Maths			
Friday	Sparx Science	English	Technology	

Week B	Subject 1	Subject 2	Subject 3	Subject 4
Monday	French / Spanish	History	Art	Drama
Tuesday				
Wednesday	Sparx Science	Sparx Reader	PE	Geography
Thursday	Sparx Maths			
Friday	Sparx Science	English	Computer Science	

\*Art and Design: in addition to your knowledge organiser work, you will be expected to complete some independent research into various artists and art techniques. This research is very important to get the most out of your learning in Art & Design. Your art teacher will explain what you need to do. This will be checked in your art lesson and not be checked in tutor time.

# This is how you learn

Your mind is split into two parts: the **working-memory** and the **long-term memory**. Everybody's **working-memory is limited**, and therefore it can very easily become overwhelmed. Your **long-term memory**, on the other hand, **is effectively limitless**.



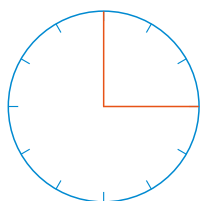
The Learning Model video



**Useful learning strategies to help you to remember knowledge:**

- a. Read - Cover - Write - Check:** Read the section (or week) of your knowledge organiser several times. Cover it so you can no longer see it. Write down as much as you can remember. Check your knowledge organiser again. What information did you recall and what did your memory not retain? Make any corrections and additions using your green pen.
- b. Flashcards** - using an A6 size card/paper, turn the information in your knowledge organiser into a series of questions and then write the corresponding answer on the back of the card. This means that you can test yourself. Simply writing everything on the card would have no impact on your memory and retention of the information.
- c. Flip and fold pages** - This may be useful when you have completed a series of weeks or at the end of the topic. On one page, write down all of your revision notes. Fold the paper in half and create a mind map of the most important information on one side. Fold it again and write all of the key vocabulary on one side. Fold for the final time and draw symbols and icons that would help you to remember the content of your full page.

- d. Elaboration** - For each of the points you are revising, develop them further by asking yourself questions e.g. why would the rainfall be 2000mm? Why might mime be used as a theatrical technique?
- e. Retrieval practice grid** - Many of you would have used these in history. Divide your page into three columns and nice lines. Write questions and answers for your chosen topic. Ask family members and friends to ask you the questions and you give them the answer, focusing on one column at a time. If you get it wrong, they need to tell you the answer and you repeat it. You now need to go back into the top of the column of nine questions and try again until you get them all correct. Move onto the next column. This would be a good grid to build up over the course of the 10 weeks of knowledge organiser homework so that you had one grid per subject!

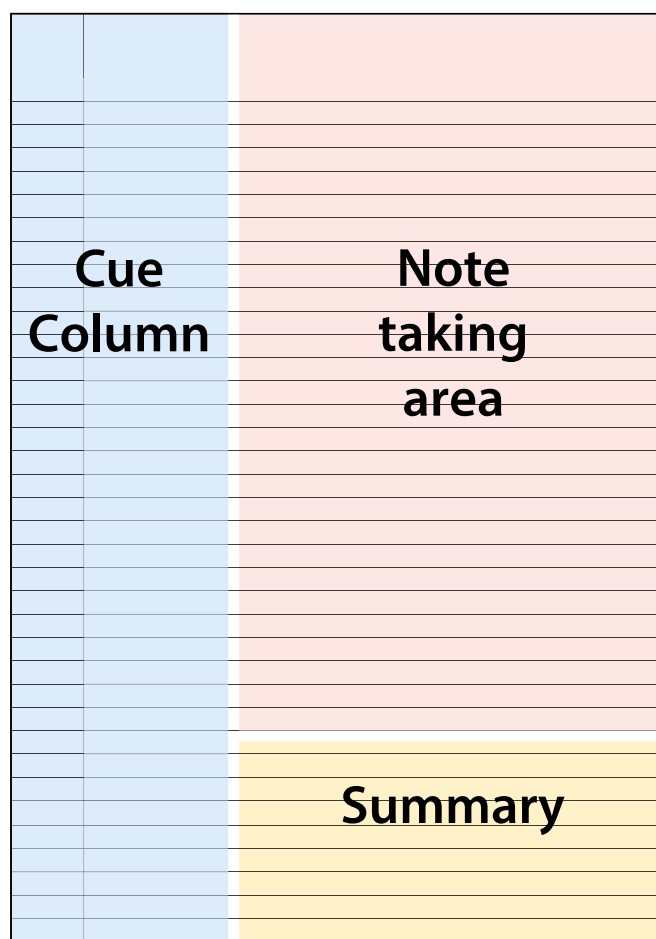


Repeat the processes above until you have spent 15-20 mins per subject per day. For example, repeated practices of 'Read - Cover - Write - Check' would be expected; not just one attempt.

## REMEMBERING: MASTERING YOUR MEMORY

### Cornell Notes

1. Divide your page into three sections like in this diagram.
2. In the note taking area, complete your work normally (if taking notes, try only to write down key information)
3. In the bottom section, summarise all the information in the note taking area into 3 bullet points
4. The Cue Column is where the magic happens - in this area, write a series of quiz questions about the notes you have written.
5. When revising, try to answer the quiz questions in the cue column before you read your notes. If you can do it, well done! You have **remembered** this. If not, you need to **learn** it again.
6. The Summary at the bottom of the page also strengthens the learning. It can be used as a prompt for you too try and remember the knowledge in the note taking area.



### Link to Learning

Cornell Notes are a note taking system that was developed at Cornell University in America.

It is specifically designed to help you initially strengthen your **learning** but perhaps more importantly, build in opportunities to **remember** what you have **learned**.

The Learning Model video



# Stop

STOP

*'They're not bullying you because of you, they're bullying you because of how they are'*

Jessie J

Bullying affects lots of people and can happen anywhere: at school, travelling to and from school, in sporting teams, in friendship or family groups.

**Bullying can take many forms including:**

- emotional abuse
- social bullying
- social media
- threatening behaviour
- name calling
- cyberbullying
- sexting

**Bullying includes REPEATEDLY:**

- people calling you names
- making things up to get you into trouble
- hitting, pinching, biting, pushing and shoving
- taking things away from you
- damaging your belongings
- stealing your money
- taking your friends away from you or leaving you out
- posting insulting messages or rumours, in person online
- threats and intimidation
- making silent or abusive phone calls
- sending you offensive texts or messages

# Speak

*'Blowing out someone else's candles doesn't make yours shine any brighter'*

Drake

**Speak to someone.**

No one has a magic wand, but we always do our best and we do really care.

Telling someone shares the problem. It helps you feel supported.

It is really important to tell someone, particularly if the bullying has been going on for a while or the strategies you've tried haven't worked.



You're **not** alone

Don't be afraid to tell an adult. **Telling isn't snitching!**



# Support

*'You always have to remember that bullies want to bring you down because you have something that they admire'*

Zak Efron

**What we do at St James to deal with bullying:**

- **Mentoring** is having a named person you can go to for support at school. Tutor/HOY/Refocus/Other
- **Restorative justice** brings all children involved together so everyone affected plays a part in repairing the harm and finding a positive way forward.



Any form of bullying will not be accepted at St James.





# The Four Types of Sexual Harassment

## Verbal/Written 1

Verbal or written remarks of a sexual nature about a person's clothing, personal behaviour or body.  
Sexually explicit statements, questions, jokes or anecdotes.  
Requesting sexual acts.  
Spreading rumours about a person's personal or sexual life.  
Coercion of sexual activity by threat or punishment.  
Excessive or unwelcome flirting.

## Physical 2

Impeding or blocking a person's physical movement.  
Inappropriate or unwanted touching or a person and/or their clothing.  
Non-consensual touching, kissing, hugging, patting, stroking or rubbing.  
Playing music or singing sexually offensive or degrading music.  
Purposefully brushing up against another person without consent.

## Non-Verbal 3

Looking a person's body up and down.  
Making derogatory gestures or facial expressions of a sexual nature.  
Frequently following or standing too close to a person on purpose.  
Whistling or staring in a sexually suggestive manner.

## Visual 4

Displaying sexually suggestive objects, images, videos, emojis, cartoons, words or calendars on screen or on physical items.  
Showing other people sexually suggestive text messages or emails.  
Sharing sexually inappropriate images or videos, such as pornography.

Report any incidents of sexual harassment to a member of staff or email

[safeguarding@stjamesexeter.co.uk](mailto:safeguarding@stjamesexeter.co.uk)



# Support available to you

## If you feel at immediate risk of harm call 999 Police

### Safeguarding Concern - Help from our St James Safeguarding Team

You can email: [safeguarding@stjamesexeter.co.uk](mailto:safeguarding@stjamesexeter.co.uk)

If worried/anxious/ or just want to talk contact...

### Food Support

If your family need foodbank vouchers or help with free school meals please email

[foodsupport@stjamesexeter.co.uk](mailto:foodsupport@stjamesexeter.co.uk)

### Self-Isolating Support (families with vulnerable members/with symptoms)

If you need support for picking up prescriptions/ shopping or support for your parents/carers by a community volunteer due to your family self-isolating, please email [foodsupport@stjamesexeter.co.uk](mailto:foodsupport@stjamesexeter.co.uk)

### Mental Health Support Team

If you have concerns over your own or your family's mental health of you own or your family. Please complete a referral on additional form or call **07866159124**

### MASH

If you have any safeguarding concerns about a child, you can call MASH on **0345 155 1071**

### Childline

**0800 1111**

[www.childline.org.uk](http://www.childline.org.uk)

Free, 24-hour telephone helpline for children and young people anywhere in the UK. Get help and advice about a wide range of issues, talk to a counsellor online, send Childline an email or post on the message boards.

### The Mix

**0808 808 4994**

[www.themix.org.uk](http://www.themix.org.uk)

Essential support for under 25s. Phone, Email, Web support and Counselling.

[www.themix.org.uk/get-support/speak-to-our-team/crisis-messenger](http://www.themix.org.uk/get-support/speak-to-our-team/crisis-messenger) - The Mix's Crisis Messenger text service is available 24/7 and open to anyone aged 25 or under living in the UK.

If you're in crisis and need to talk, text **THEMIX to 85258**

### Samaritans:

Helpline: **116 123**

Email [jo@samaritans.org](mailto:jo@samaritans.org)

[www.samaritans.org](http://www.samaritans.org)

24hr service offering emotional support

### Runaway Helpline:

**116 000**

Email - [116000@runawayhelpline.org.uk](mailto:116000@runawayhelpline.org.uk)

[www.runawayhelpline.org.uk](http://www.runawayhelpline.org.uk)

Runaway Helpline is here if you are thinking about running away, if you have already run away, or if you have been away and come back. You can also contact the Helpline if you are worried that someone else is going to run away or if they are being treated badly or abused. You can call or text for free, 24 hours a day. It's all confidential.



## Shout

is an affiliate of Crisis Text Line® in the UK that provides free, confidential support, 24/7 via text. It's a free 24/7 texting service in the UK for anyone in crisis anytime. Text **85258**

## Kooth

[www.kooth.com](http://www.kooth.com)

Free, safe and anonymous support for young people.

Monday - Friday 12pm-10pm

Saturday - Sunday 6pm - 10pm

## YMCA - Children and Young People's Wellbeing Service

Wellbeing Practitioners provide uses CBT (Cognitive Behavioural Therapy) techniques and goal-setting to build up emotional wellbeing and resilience in young people and their families.

Self-referral:

<https://www.ymcaexeter.org.uk/cwpwellbeing/>

## Young Devon

Young Devon run a homelessness prevention scheme in Exeter; they can help 16 & 17yr olds and care leavers.

**01392 331666** and ask to speak to the Homeless Prevention Team or email

[yes.exeter@youngdevon.org](mailto:yes.exeter@youngdevon.org)

If you are under 18 call the Social Service Emergency Duty team **0345600 0388**

## Online support and advice:

<https://www.thinkuknow.co.uk/>

## Safeguarding/Welfare Concern

If students would like to report a Welfare or Safeguarding Concern to our Safeguarding Team, they can click on this link or follow the QR code: <https://forms.office.com/r/2DD9tAu7tN>

## Write a Statement

If students would like to report an incident to our Pastoral Support Team, they can click on this link: <https://tinyurl.com/5ct25wus>

# Online Support and Advice

- **Think before you post**

Don't upload or share anything you wouldn't want your parents, carers, teachers or future employers seeing. Once you post something, you lose control of it, especially if someone else screenshots or shares it.

- **Don't share personal details**

Keep things like your address, phone number, full name, school and date of birth private, and check what people can see in your privacy settings. Remember that people can use small clues like a school logo in a photo to find out a lot about you.

- **Watch out for phishing and scams**

Phishing is when someone tries to trick you into giving them information, like your password. Someone might also try to trick you by saying they can make you famous or that they're from a talent agency. Never click links from emails or messages that ask you to log in or share your details, even if you think they might be genuine. If you're asked to log into a website, go to the app or site directly instead.

- **Think about who you're talking to**

There are lots of ways that people try to trick you into trusting them online. Even if you like and trust someone you've met online, never share personal information with them like your address, full name, or where you go to school. Find out more about grooming.

- **Keep your device secure**

Make sure that you're keeping your information and device secure.

**More information can be found on our website:** <https://www.stjamesexeter.co.uk/about/safeguarding/>

### Reporting a safeguarding concern



### Write a statement





## Colour Theory

### Week 2

Ever wondered how designers and artists find the perfect colour combination?

They use colour theory. Colour theory is a practical combination of art and science that's used to determine what colours look good together. The colour wheel was invented in 1666 by Sir Isaac Newton, who mapped the colour spectrum onto a circle. The colour wheel is the basis of colour theory, because it shows the relationship between colours.

Colour theory is one of the most fundamental areas of painting. The importance of understanding colour theory far exceeds simply knowing how to mix colours together (for example, knowing that yellow and blue make green). Colour theory also acts as a guide to psychology impact of certain colour combinations.

### An extremely brief history of Colour Theory

General principals of colour theory were evident in writings of Leone Battista Alberti (c.1435) and the notebooks of Leonardo Da Vinci (c.1490). Sir Isaac Newton's first colour wheel was an arrangement of red, orange, yellow, green, blue, indigo and violet on a rotating disk.

Since the origination of the colour wheel by Newton, it has become one of the most powerful tools available to artists for explaining the relationship between colours.

There are twelve main colours on the colour wheel. In the RGB colour wheel, these hues are red, orange, yellow, chartreuse green, green, spring green, cyan, azure, blue, violet, magenta and rose.

### Week 4

The colour wheel can be divided into **primary**, **secondary** and **tertiary** colours.

#### Primary Colours: Red, Yellow and Blue

In traditional colour theory (used in paint and pigments), primary colours are the three pigment colours that cannot be mixed or formed by any combination of other colours. All other colours are derived from these three hues.

#### Secondary Colours: Green, Orange and Purple

These are the colours formed by mixing two primary colours together.

#### Tertiary Colours: Yellow-orange, red-orange, red-purple, blue-purple, blue-green & yellow-green

These are the colours formed by mixing a primary and a secondary colour. That's why the hue is a two-word name, such as blue-green, red-violet, and yellow-orange.

### Week 6

#### Complementary Colours

Two colours that are on opposite sides of the colour wheel. This combination provides a high contrast and high impact colour combination - together, these colours will appear brighter and more prominent. Red and Green for example.

#### Harmonious Colours

Three colours that are side by side on the colour wheel. This colour combination is versatile, but can be overwhelming. To balance a harmonious colour scheme, choose one dominant colour, and use the others as accents.

#### Warm and Cool Colours

The colour wheel can also be divided into warm and cool colours. The warmth or coolness of a colour is also known as its colour temperature. The colour combinations found on a colour wheel often have a balance of warm and cool colours. According to colour psychology, different colour temperatures evoke different feelings. For example, warm colours are said to bring to mind cosiness and energy, while cool colours are associated with serenity and isolation.

Year 7 Computing Cycle Three

Data representation

1. Binary to denary

128	64	32	16	8	4	2	1
1	1	1	0	1	0	1	1

= 128 + 64 + 32 + 8 + 2 + 1 = 235

2. Denary to Binary

128	64	32	16	8	4	2	1
0	1	0	0	0	0	1	1

= 67 = 64 + 2 + 1

3. Binary to HEX

00111100

Split in half = 0011 and 1100

Work out value of each half = 3 and 12

Convert to HEX 3 = 3 and 12 = C = 3C

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	2	3	4	5	6	7	8	9	A	B	C	D	E	F

4. HEX to binary

B2

Split in half = B and 2

Convert to HEX B = 11 and 2 = 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	2	3	4	5	6	7	8	9	A	B	C	D	E	F

Convert to binary 11 = 0100 and 2 = 0010

Join up again = 01000010

5. HEX to denary

Multiply first number by 16

Add second number to answer

Example: 7E = 7 \* 16 = 112 + E (14) = 112 + 14 = 126

6. Denary to HEX

First HEX number = Divide denary number by 16 and round your answer

Second HEX number = Denary number minus 16 x the rounded answer you just got

Example: 56 = 56 / 16 = 3.5 (round to 3) 56 - 16 x 3 = 8 = 38

7. Shift left

Add 0 to right and shift all numbers left so the one on the far left drops off and disappears

Example: 01010111 becomes 10101110

8. Shift right

Add 0 to left and shift all numbers right so the one on the far right drops off and disappears

Example: 01010111 becomes 00101011

9. Add binary

00011101

Add just like you would in Maths but instead of

10011011 +

carrying numbers 1 - 9, you carry 1 or 0

10111000

RULES = 0+1=1, 1+0=1, 1+1=10 (1 carried), 1+1+1=11 (1 carried)

Week 1

Convert to denary:

01000001

11111100

01010100

11110010

Convert to binary

64

99

167

235

Convert to denary:

Addition:

11010101 + 11111010

00010101 + 00001010

10100010 + 10101001

10101000 + 11111100

Shifts:

Left 1 and right 1 = 01011111

Left 2 and right 2 = 11101011

Week 3

Binary to HEX:

01010000

11101010

HEX to binary:

44

AB

HEX to denary:

EB

7F

Denary to HEX:

85

196

Week 4 & 5

Convert into Binary, Denary or

HEX

Binary

01011111

01010011

11110111

11111111

Denary

55

198

241

4

HEX

4E

FF

A7

88

Year 7 Drama Cycle Three - Ancient Greek Theatre

Week 1	Week 3	Week 5	Week 7	Week 9
<p><b>Ancient Greek stories</b> were epic, highly exaggerated and adventurous. They contained royal families, wars and battles, incredible journeys, Gods and Demons, mythical beasts, magic and sorcery.</p> <p>The plays were split into <b>Tragedies and Comedies</b>; Both carried morals and messages for their audiences. Tragedy always resulted in a lesson to be learned (and usually a few deaths!) whilst comedy (and usually a few deaths!) whilst comedy poked fun at society and the politicians of the era. Often the playwrights would let their opinion of a political issue be known through the story.</p> <p>Sadly, only a few comedies have survived but there are many tragedies documented.</p> <p>Homer's <i>Odyssey</i> and <i>Iliad</i> (written in the 9th/8th century BC) were exceptionally popular and are still performed today</p>	<p><b>Ancient Greek theatre</b> started in about 550BC. It was a popular form of entertainment and everyone in Greek society would watch the performances.</p> <p><b>Amphitheatres</b> on average held between 15,000- 20,000 but in larger cities such as Athens they could hold up to 60,000. (to compare size - Exeter chief holds 13,600 whilst Emirates stadium holds 60,000).</p> <p>Initially, they started as a way to praise DIONYSUS the God of Theatre and Wine but they grew to become huge competitions that playwrights would enter to win the title of best poet. Prizes ranged from ivy wreaths to goats and even statues erected in their honour.</p> <p>There was a rapid turnover of plays, some were only performed once or twice (a bit like us watching a film but not watching it again).</p>	<p><b>Key Features Aristotle's Three unities</b> - created an elegant, fluid and logical structure.</p> <p><b>UNITY of ACTION</b> = one story should be followed - no subplots were allowed and stories should not show base action such as blood/guts/gore.</p> <p><b>UNITY of PLACE</b> = the play should stay in one place only, it could not move venue at any point.</p> <p><b>UNITY of TIME</b> = the play had to be linear and keep to roughly a 24hr period of time.</p> <p><b>CHORUS</b> - a large group who furthered the plot. They stood on the side, took small roles like a messenger or gave warnings. They performed the openings and endings.</p> <p><b>Parados</b> - main entrance onto the stage for the chorus. Also the opening section of the play.</p> <p><b>Exodus</b> - ending of the play.</p> <p><b>Choragos</b> - wealthy citizens who donated money to theatres.</p> <p><b>Hubris</b> - overconfidence or defying the Gods.</p> <p><b>Nemein/Nemisis</b> - to get what is due (a Goddess who delivered retribution).</p> <p><b>Skene</b> - dressing room.</p> <p><b>Orchestra</b> - where the main action happened.</p> <p><b>Theatron/Koilon (seeing place)</b> - main seating.</p> <p><b>Thymele</b> - altar on stage to Dionysus.</p> <p><b>Proskenion</b> - backdrop.</p>	<p><b>Key techniques</b> - You were only allowed three main actors on stage plus the chorus. Due to this and the 3 unities there were lots of techniques the chorus used to get around the issues.</p> <p><b>Direct address</b> - speaking to the audience</p> <p><b>Narration</b> - explaining more detail of the plot to the audience (often the backstory).</p> <p><b>Poetic reading</b> - reading with rhyme and rhythm.</p> <p><b>Choral speech</b> - groups speaking together</p> <p><b>Canon/echo</b> - saying the same thing one after the other.</p> <p><b>Song/singing</b> - sections sung with or without music.</p> <p><b>Gossip/reiteration</b> - parts of the play repeated in another way to make sure the audience understood.</p> <p><b>Tableau</b> - a frozen image depicting something important.</p> <p><b>Stylized symbolic movement</b> - the chorus move through images to interpret a moment in the story.</p> <p><b>Mime</b> - exaggerated acting with no words.</p> <p><b>Dance</b> - sections were danced as entertainment and to praise the Gods.</p> <p><b>Masks</b> - highly exaggerated so people in the amphitheatre could see features and identify characters.</p>	<p><b>Key plays</b></p> <p><b>Trojan women</b> - written by Euripides in 415BC. It is about the aftermath of Helen of Troy who has left her husband (Menelaus) and run away with Paris (who's father is Priam, King of Troy). The play describes the Trojan Horse being placed in Troy and then the attack on the city by the Greeks hiding inside. The play has a message of duty, obligation and integrity, and both Paris and Helen die due to their actions.</p> <p><b>Medea</b> - written by Euripides in 431BC (before Trojan women) It is based on a woman called Medea seeking revenge after her husband has left her for another woman. The play's main messages are about revenge, passion, betrayal and power (because it is Jason's need for power that leads him to betray his wife).</p> <p><b>Antigone</b> - written by Sophocles in 441BC (this is the earliest play we study) The play follows a princess (Antigone) who fights her uncle (the king) for the right to give her brother a religious burial. The main themes are loyalty, respect for death and religious views, following law and gender roles.</p>

Year 7 Engineering Design & Technology Cycle Three

ROTATION 2 - Moved from Photography at Feb 1/2 term

Week 2	Week 4	Week 6	Week 8	Week 10
<p><b>KNOW YOUR MACHINE TOOLS</b></p> <p>The workshop is full of tools and equipment.</p> <p>In Y7 you will use the following</p> <ol style="list-style-type: none"> <li>1) Belt Sander</li> </ol> <p>This is used to remove small amounts of timber or plastic material. It is possible to round/curve timber with this. There is a small 'fence' on the machine to help you keep your work at the correct angle to the belt.</p> <p>Q - What are the 2 ways to switch this machine off?</p> <ol style="list-style-type: none"> <li>2) Pillar Drill</li> </ol> <p>The pillar drill uses pulleys and a belt to drive a chuck. The chuck is the part that holds the drill bit. You can change the drill bit to whatever diameter you choose.</p> <p>Q - How would you clamp your work on a pillar drill? (2 ways)</p> <ol style="list-style-type: none"> <li>3) Power Fret Saw</li> </ol> <p>The Power Fret saw has an oscillating saw blade and can be used for cutting thin material, often ply and MDF.</p>	<p><b>KNOW YOUR WORKSHOP SAFETY</b></p> <p>Make sure you always follow the rules of the workshop.</p> <p>Wear goggles on machines and when hammering</p> <p>Only use a machine when you are confident, have permission and have seen a demonstration to use it</p> <p>Wear an apron</p> <p>Tie your hair back</p> <p>Do not run in the workshop</p> <p>Only the person using the machine should stand in the yellow/black safety area</p> <p>Always switch a machine off and wait for it to slow down after use</p> <p>Do not shout in the workshop</p> <p>Do not talk when you are using a machine</p> <p>Remove loose clothing and jewellery</p>	<p><b>KNOW YOUR PPE</b></p> <p>PPE stands for Personal Protective Equipment.</p> <p>In the workshop you must always wear goggles on machines and using impact tools i.e. hammers and mallets.</p> <p>You should also wear an apron where appropriate and remove loose clothing/jewellery.</p> <p>On occasions you may need to wear...</p> <ul style="list-style-type: none"> <li>» ear defenders,</li> <li>» gloves,</li> <li>» leather apron</li> <li>» more robust shoes depending on what you are doing</li> </ul>	<p><b>KNOW ABOUT CAD</b></p> <p>CAD stands for Computer Aided Design. Designers and Engineers use CAD to draft, design and develop ideas</p> <p>2D CAD is good for layout, graphic design and web design. It also used which can run laser cutters and other 2D CAM machines.</p> <p>3D CAD modelling is used model and develop products and components by designers and engineers. It helps to visualise the designs and check for errors. It even allows you to test and simulate where parts may fail in use.</p>	<p><b>KNOW ABOUT CAM</b></p> <p>CAM stands for Computer-Aided Manufacture.</p> <p>These computer controlled machines include:</p> <ul style="list-style-type: none"> <li>» CNC Routers*</li> <li>» CNC Lathes</li> <li>» Laser Cutters*</li> <li>» Plasma Cutters</li> <li>» CNC Mills</li> <li>» 3D printers</li> </ul> <p>CAM allows for the consistently accurate machining of parts and products.</p> <p>These can be subtractive techniques where you remove material from a block or additive techniques like 3D printing where you build up a part in thin layers.</p> <p>REFER TO THE PICTURES ON THE NEXT PAGE TO HELP YOU KNOW WHAT THESE MACHINES LOOK LIKE</p>

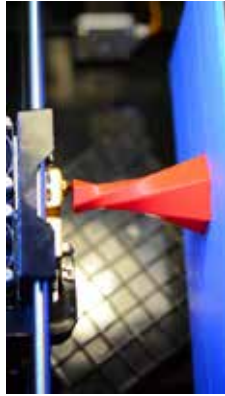
Year 7 Engineering Design & Technology Cycle Three - Pictures for week 2-10



ABOVE- Power Fret Saw  
 FAR LEFT – Belt Sander  
 LEFT MIDDLE – Pillar Drill



TOP LEFT- CNC Machining  
 BOTTOM LEFT- CNC Lathe



TOP RIGHT - Laser Cutting  
 BOTTOM RIGHT- 3D Printing

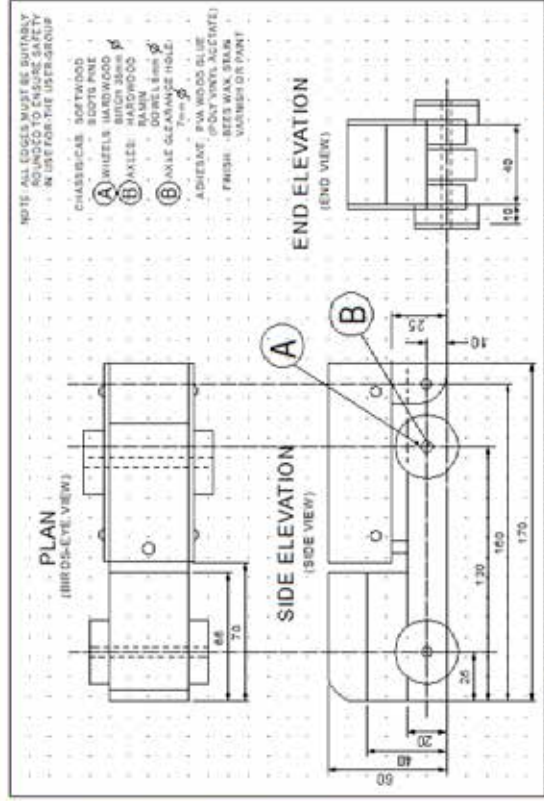


RIGHT – Signs seen next to all machine tools in the workshop



ABOVE MIDDLE– Googles  
 ABOVE RIGHT – Ear Defenders  
 RIGHT – Leather gloves for hot metalwork

RIGHT – Manufacturing Drawing produced on 2D CAD



Year 7 English Cycle Three				
Week 1	Week 2	Week 3	Week 4	Week 5
<p><b>TECHNIQUES</b></p> <p><b>Literal language:</b> if something is <b>literal</b> it is accurate or precise.</p> <ul style="list-style-type: none"> <li>» A literal description tells what actually happens.</li> <li>» Something that is literal reports on events.</li> <li>» An example would be 'he is lazy'</li> </ul>	<p><b>VOCABULARY</b></p> <p><b>Setting (noun):</b> The place or surroundings where an event takes place.</p> <p><b>Atmosphere (noun):</b> The feeling or mood of a place or situation.</p> <p><b>Metaphor (noun):</b> If something is a metaphor it is not literal.</p> <p><b>Personification (noun):</b> The attribution of a personal nature or human characteristics to something non-human.</p>	<p><b>POEMS</b></p> <p>A <b>metaphor</b> has three parts:</p> <p><b>The tenor:</b> the thing you want to try and describe to your audience.</p> <p><b>The vehicle:</b> The imaginative idea you compare it with to help your audience understand it. This is the 'made up' bit.</p> <p><b>The ground:</b> the thing the tenor and the vehicle have in common.</p>	<p><b>POEMS</b></p> <p>Learn what, who and when:</p> <p>'Fog' - Carl Sandburg, 1878 - 1967</p> <p>Learn this quote:</p> <p>'The fog comes on little cat feet'</p>	<p><b>POEMS</b></p> <p>Learn what, who and when:</p> <p>'November Night' - Adelaide Crapsey, 1878 - 1914</p> <p>Learn this quote:</p> <p>'like steps of passing ghosts, / The leaves, frost - crisp'd, break from the trees and fall'</p>
<p><b>Metaphor:</b> if something is a <b>metaphor</b> it is <b>not literal</b>.</p> <ul style="list-style-type: none"> <li>» A <b>metaphor</b> does <b>not report on what actually happens</b>.</li> <li>» A <b>metaphor</b> tells us more about something by bringing ideas together.</li> <li>» An example would be 'he is a couch potato'</li> </ul>	<p><b>Sense (verb/noun):</b> Perceive by a sense or senses. Hear, see, taste, smell, touch.</p> <p><b>Protagonist (noun):</b> The main character- this is the character whose side we are on- the one we want to 'win' or succeed.</p> <p><b>Antagonist (noun):</b> This is the main opponent of the protagonist. They are sometimes the 'bad guy' or the problem that the protagonist must solve.</p> <p><b>Connotation (noun):</b> Associations that we have with particular words – what we think, feel and imagine when we read them.</p>	<p>Here is an example:</p> <p>'Achilles fought like a lion' (both Achilles and the lion are <b>strong</b>)</p> <p>Achilles is the <b>tenor</b> because he is the thing being described. The lion is the <b>vehicle</b> because it is the imaginative idea Achilles is compared to. The <b>ground</b> is that they are both strong because this is what they have in common.</p>	<p>'Fog' - Carl Sandburg, 1878 - 1967</p> <p>Learn what the <b>fog</b> and the <b>cat feet</b> have in common:</p> <p>Both 'the fog' and the 'little cat feet' are grey, delicate and move gently.</p>	<p>'November Night' - Adelaide Crapsey, 1878 - 1914</p> <p>Learn what the <b>leaves</b> and the <b>ghosts' steps</b> have in common:</p> <p>Both 'the leaves' and 'the steps of passing ghosts' rustle softly.</p>

Year 7 English Cycle Three				
Week 6	Week 7	Week 8	Week 9	Week 10
<p><b>Literal language:</b> if something is <b>literal</b> it is accurate or precise.</p> <ul style="list-style-type: none"> <li>» A literal description tells what actually happens.</li> <li>» Something that is literal reports on events.</li> <li>» An example would be 'he is lazy'</li> </ul>	<p><b>Learn what, who and when:</b>                      'Sally' - Phoebe Hesketh, 1909 - 2005</p> <p><b>Learn this quote:</b>                      'She was a dog-rose kind of girl! Elusive, scatterry as petals'</p>	<p><b>Learn what, who and when:</b>                      'Pigeons' - Richard Kell, 1927</p> <p><b>Learn this quote:</b>                      'small blue busybodies/ Strutting like fat gentlemen'                      'their heads like tiny hammers'</p>	<p><b>Learn what, who and when:</b>                      'The Eagle' – Alfred, Lord Tennyson, 1809 – 1892</p> <p><b>Learn this quote:</b>                      'And like a thunderbolt he falls'</p> <p><b>Learn what the eagle and the thunderbolt have in common:</b>                      Both the eagle falling and 'a thunderbolt' are fast and dangerous.</p>	<p><b>Have you learnt these quotes? Fill in the gaps from memory!</b></p> <p>'The _____ comes on little cat _____,</p> <p>'like steps of passing _____/The leaves, frost -crisp'd, break from the _____ and fall'</p> <p>'She was a dog-rose kind of _____./ Elusive, scatterry as _____,</p>
<p><b>Metaphor:</b> if something is a <b>metaphor</b> it is <b>not literal</b>.</p> <ul style="list-style-type: none"> <li>» A <b>metaphor</b> does <b>not report on what actually happens</b>.</li> <li>» A <b>metaphor</b> tells us more about something by bringing ideas together.</li> <li>» An example would be 'he is a couch potato'</li> </ul>	<p><b>'Sally' – Phoebe Hesketh, 1909 – 2005</b></p> <p><b>Learn what Sally and the dog-rose have in common:</b>                      Both Sally and 'a dog-rose' are wild and not traditionally beautiful.</p>	<p><b>Learn what the pigeons and busybodies have in common:</b>                      Both pigeons and 'bushbodies' walk around looking like they think they're important. Both pigeons and fat gentlemen have big bellies but look quite dignified.</p>	<p><b>Learn what the tiger and fire have in common:</b>                      Both the tiger and fire are beautiful and powerful, but also difficult to control.</p>	<p>'small _____ busybodies/ Strutting like _____ gentlemen'</p> <p>'their heads like tiny _____,</p> <p>'And like a _____ he falls'</p> <p>'Tyger, tyger _____ bright'</p>



Year 7 French Cycle Three

Week	French	English
1	Je vais souvent à l'étranger, mais rarement aux États-Unis.	I often go abroad, but rarely to the USA.
2	Le père fait les affaires.	The father does some business.
3	Nous allons en Écosse chaque année pour les vacances.	We go to Scotland every year for the holidays.
4	J'habite chez Amir en France. C'est un pays cool!	I live at Amir's place in France. It is a cool country!
5	Elle dit la vérité. Il prend le train. C'est facile à comprendre.	She is telling the truth. He is taking the train. It is easy to understand.
6	Tu viens chez moi et elle sort avec des amis.	You are coming to my place and she is going out with friends.
7	Je viens d'Algérie. Je suis algérien. J'aime les maths et la musique.	I come from Algeria. I am Algerian. I like maths and music.
8	Parfois, je dors sous le bureau avec l'équipe!	Sometimes, I sleep under the desk with the team!
9	Le nouveau café est devant la rue entre la plage et le cinéma.	The new café is in front of the road between the beach and the cinema.
10	L'église est haute et belle, mais le pont est trop vieux.	The church is high and beautiful, but the bridge is too old.

Each week you will need to practise and learn your Sentence of the Week as well as your Vocabulary of the Week. For your Vocabulary of the Week also pay attention to which type of words they are:

- Verbs are in **VIOLET**
- Feminine nouns are in **PINK**
- Masculine nouns are in **BLUE**
- Adjectives are in **AMBER**

Here you will find quizlet sets to help you to learn this language:



Week 5	
prendre	to take/taking
je prends	I take/am taking
tu prends	you take/are taking
il prend	he takes/is taking
elle prend	she takes/is taking
l'erreur (f)	mistake
facile (m/f)	easy
apprendre	to learn/learning
comprendre	to understand/understanding
dire	to say/saying
je dis	I say/am saying
tu dis	you say/are saying
il dit	he says/is saying
elle dit	she says/is saying

Week 4	
arriver	to arrive/arriving
changer	to change/changing
à	to / at / in
créer	to create/creating
le monde	world
gagner	to win/winning
les vêtements (mpl)	clothing
habiter	to live/living
le pays	country
la politique	politics
chez	to/at (the place of)

Week 3	
nous allons	we go/are going
vous allez	you go/are going (pl)
ils vont	they go/are going (m, m/f)
elles vont	they go, are going (f)
l'année (f)	year
le mois	month
les vacances (fpl)	holidays
la ville	town
l'Écosse (f)	Scotland
l'Angleterre (f)	England
la France	France
chez	to (the place of)
en	by / in / to

Week 2	
tuer	to kill
la vie	life
la guerre	war
les affaires	business
le père	father
la mère	mother
le fils	son
heureux	happy (m)
heureuse	happy (f)
contre	against
absolument	absolutely

Week 1	
l'aéroport (m)	airport
les États-Unis (mpl)	USA
l'étranger	abroad
l'hôtel (m)	hotel
l'île (f)	island
rarement	rarely
souvent	often
l'université (f)	university

Week 7	
algérien	Algerian (m)
algérienne	Algerian (f)
l'Algérie (f)	Algeria
Alger	Algiers
combien?	how much/many?
que?	that/what?
quel?	which? (m)
quelle?	which? (f)
la langue	language
la matière	subject
la musique	music
la science	science
les maths (fpl)	maths
le nom	full name
pourquoi?	why?
parce que	because

Week 6	
sortir	to go out/going out
je sors	I go out/am going out
tu sors	you go out/are going out
il sort	he goes out/is going out
elle sort	she goes out/is going out
important	important (m)
importante	important (f)
venir	to come/coming
je viens	I come/am coming
tu viens	you come/are coming
il vient	he comes/is coming
elle vient	she comes/is coming
de	of / from
devenir	to become/becoming
revenir	to come back/coming back

Week 10	
vieux	old (m)
vieille	old (f)
beau	beautiful (m)
belle	beautiful (f)
haut	high (m)
haute	high (f)
le bâtiment	building
l'église (f)	Church
le pont	bridge
le jardin	garden

Week 9	
la plage	beach
la rue	street
le café	café
le cinéma	cinema
derrière	behind
devant	in front of
entre	between
nouveau	new (m)
nouvelle	new (f)

Week 8	
parfois	sometimes
l'équipe (f)	team
le bureau	desk
sous	under
sur	on
domir	to sleep/sleeping
je dors	I sleep/am sleeping
tu dors	you sleep/are sleeping
il dort	he sleeps/is sleeping
elle dort	she sleeps/is sleeping

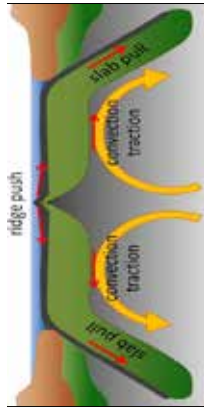
Year 7 Geography Cycle Three Knowledge Organiser

Key vocabulary

- Lithosphere:** Outer layer of the Earth. Sometimes called the crust.
- Mantle:** Much thicker mass of rock under the lithosphere. Rocks hot enough to deform and move like plastic. Outer core is liquid. Inner core is solid and made of iron and nickel.
- Oceanic plate:** 50-100km thick
- Continental plate:** Up to 200km thick.
- Slab pull:** where the denser plate sinks into the mantle under the influence of gravity. It pulls the rest of the plate along behind it.
- Ridge push:** Magma rises as the plates move apart. The magma cools to form new plate material.

Week 1 - Structure of the Earth

In 1912, Alfred Wegener, a German meteorologist, put forward his theory of **continental drift**. He argued that millions of years ago, the continents that we know today were joined together into one supercontinent called **Pangea**. The continents have been drifting apart and together ever since.



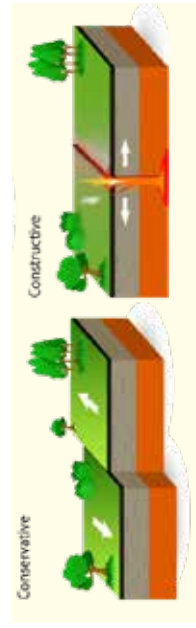
Week 2 - Destructive & Collision

- Destructive plate boundary:** Plates move together.
  - If an oceanic plate moves towards a continental plate, the heavier oceanic plate sinks (called **subduction**) beneath the continental one.
  - This creates an **ocean trench**.
  - Continental plate moves up to form mountain belts.
  - The melting oceanic plate creates **magma** which rises to the surface as a volcanic eruption.
  - The pressure can trigger earthquakes.
- Collision zone:** Two continental plates meet and push upwards to create high mountain belts. No volcanoes.



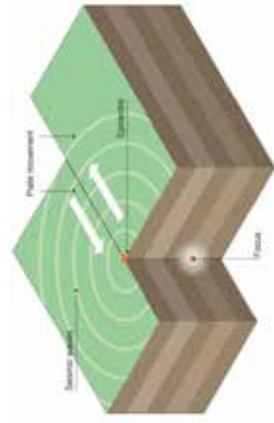
Week 3 - Constructive & Conservative

- Constructive plate boundary:** two plates are forced apart.
  - Magma rises and the hot rocks melt, forming a ridge of volcanoes and new ocean lithosphere.
  - Forms a **mid-ocean ridge**.
- Conservative plate boundary:** Two plates slide slowly past each other.
  - Friction** causes the plates to stick together and pressure builds.
  - As the friction is overcome, the sudden movement creates a severe earthquake. No magma escapes so there are no volcanic eruptions.



Week 4 - Earthquakes

- Focus:** the centre of an earthquake below the Earth's surface.
- Epicentre:** the area on the surface directly above the focus. Seismic waves: waves of energy.
- Richter scale:** measurement of the magnitude or size of an earthquake. Recorded on a seismometer.
- Mercalli scale:** measurement of the intensity of the earthquake by recording the effect and damage it caused.



Week 5 - Nepal

- Nepal earthquake (25 April 2015)**
  - Collision zone between Indian and Eurasian plate.
  - Focus 8km deep.
  - 8,632 dead
  - 19,009 injured
  - Worst in 80 years
  - Temperatures fell at night, survivors suffering hypothermia.
  - Landslides cut off remote villages.
  - Triggered an avalanche at Mt Everest.
  - International aid from China and India: \$1 billion to help.

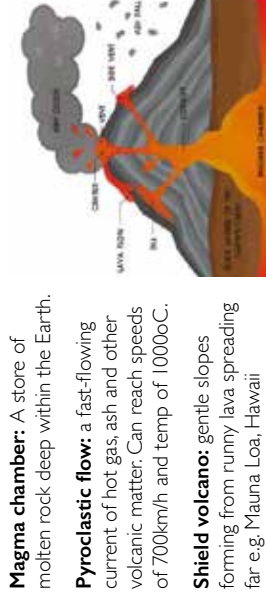


Year 7 Geography Cycle Three Knowledge Organiser

Key vocabulary

- Primary Effects:** effects that occur immediately as a result of a hazard.
- Secondary Effects:** the indirect effects caused by the primary impacts, after the main event.
- Immediate Response:** a response in the days and weeks immediately after a disaster has happened.
- Long-term Response:** responses that go on for months and years after a disaster.
- Volcano:** an opening in the Earth's crust that allows molten rock from beneath the crust to reach the surface.
- Risk:** the probability of a hazard event causing harmful consequences.

Week 6 - Volcanoes



- Magma chamber:** A store of molten rock deep within the Earth.
- Pyroclastic flow:** a fast-flowing current of hot gas, ash and other volcanic matter. Can reach speeds of 700km/h and temp of 1000°C.
- Shield volcano:** gentle slopes forming from runny lava spreading far e.g. Mauna Loa, Hawaii
- Composite volcano:** Steep sides, cone shape. Form from thick, viscous lava that does not flow easily e.g. Mt Fuji, Japan.

Week 7 - Eyjafjallajökull

- Eyjafjallajökull eruption, Iceland (April 2010)**
- Started on 20 March when a 500 metre fissure opened up.
- Constructive plate margin.
- The eruption happened under an ice sheet. Dissolved gases in the molten rock along with steam generated from the melting ice caused a huge column of **volcanic ash**.
- Areas were flooded by the **Jökulhlaups** (glacier meltwater floods).
- Farm land was affected by heavy ash fall, poisoning animals. Perishable foods were wasted as they could not be transported into Europe e.g. flowers from Kenya.
- 95,000 flights were cancelled. People were not able to get to work because they were stranded. The eruption cost airlines \$200 million per day.

Week 8 - Tsunamis

- Tsunami:** a large ocean wave caused by an underwater earthquake or volcanic eruption. They are NOT tidal waves!
- A tsunami can have a very long **wavelength** that can be hundreds of kilometres long. You tend not to notice them at sea; they increase in height when they meet the shallow water and friction at the shore.
- In deep water, tsunamis travel over **500mph** or as fast as a jet plane. A sign that a tsunami is coming is often the withdrawal of water from a beach.



Week 9 - SE Asia Tsunami

- SE Asia Tsunami (26 December 2004)**
- Indo-Australian plate subducting beneath Eurasian plate.
- Magnitude 9.1 quake.
- Speed of tsunami up to 800km/h. 15 metre height onshore.
- 250,000 people died across 14 countries.
- Two million homeless. Indonesia and Thailand most affected. Now an Indian Ocean early warning system.
- Japan tsunami (11 March 2011)**
- Magnitude 9.0.
- Pacific and North America plate.
- Epicentre 129km away from Japan.
- Wave travelled 10km inland in Sendai. Destroyed sea walls.
- Fukushima nuclear power plant flooding - radioactive disaster.
- 18,000 people died.
- Total damages: \$300 billion.

Week 10 - Management

- Managing earthquakes:** People may have earthquake **survival kits** and **earthquake drills** to practise what people would do during a real earthquake (drop, cover, hold on). Buildings can be made earthquake resistant using cross bracing and sheer walls. Old buildings can be modified to make them more resistant (called **retrofitting**).
- Managing volcanic eruptions:** Easier to **predict** than earthquakes – changes in gases, deformed land, foreshocks. Communities can have **evacuation plans** and hazard maps prevent building in vulnerable places. Some cities, like Tokyo, have hazards guides **educating people** about what to do in the event of tectonic hazards.
- Predict:** Try to work out when the hazard is going to happen.
- Prepare:** Change the physical or human surroundings to reduce the damage.
- Protect:** Be ready for when something does happen - have a plan.

Year 7 History Cycle Three - Was England 'better off' with or without a King or Queen in the 1500s and 1600s?

Week	Knowledge	Week
1	<p><b>1485-1509:</b> The reign of the first Tudor King Henry VII  <b>1509-1547:</b> The reign of King Henry VIII  <b>1547-1553:</b> The reign of Henry VIII's only son, Edward who became King at the age of 9  <b>1553-1558:</b> The reign of 'Bloody' Mary Tudor  <b>1558:</b> Elizabeth I (Henry VIII's youngest daughter) becomes Queen of England following Mary's death  <b>1559:</b> Elizabeth passes the Religious Settlement, changing the nation's religion from Catholic to Protestant  <b>1587:</b> The execution of Mary, Queen of Scots</p>	9
2	<p><b>Leadership:</b> The process of guiding, persuading and controlling people  <b>Compassion:</b> To show understanding of and pity for others  <b>Selflessness:</b> To put others' interests before one's own  <b>Self-confidence:</b> To believe in one's own abilities  <b>Catholicism:</b> The original form of Christianity, loyal to the Pope in Rome  <b>Protestantism:</b> The Christianity formed in the 1500s that protested against and broke away from the supposed 'greed' of Catholicism  <b>Tyrant:</b> A ruler who controls his people cruelly</p>	7
3	<p><b>Vestments:</b> Religious clothing worn by members of the Church  <b>Supreme Governor:</b> Elizabeth's title after the 1559 Religious Settlement  <b>Puritans:</b> Extreme Protestants who wanted a 'pure' Christianity and the ending of all Catholic practices  <b>Acts of Supremacy and Uniformity:</b> The two parts of Elizabeth's Religious Settlement  <b>Abdicate:</b> To resign from a position of rule  <b>Execute:</b> To kill as a punishment  <b>Interrogate:</b> To forcefully question  <b>Francis Walsingham:</b> Elizabeth I's 'Spymaster' who investigated Catholic plots (schemes) against her</p>	8
4	<p><b>Parliament:</b> Elected politicians who make and pass the laws of a country  <b>Conspiracy:</b> A plot (to overthrow those in power)  <b>Torture:</b> To use violence against prisoners in order to extract information  <b>Trial:</b> A legal process to decide if a defendant is guilty or not guilty of a crime  <b>Vagabond:</b> A travelling homeless beggar  <b>Poverty:</b> To lack the basics (food, shelter, money etc.) to live comfortably  <b>Idle:</b> Lazy  <b>Deserving poor:</b> Those who wanted to (but could not find) work and therefore deserved charity  <b>Parish:</b> An area of land under the control of a church</p>	6
5	<p><b>Renaissance:</b> The rebirth of learning (c.1500-1700)  <b>Jousting:</b> To compete on horseback using lances  <b>William Shakespeare:</b> England most famous playwright. He was baptised in 1564 and died in 1616.  <b>Theatre:</b> A building designed to present plays to an audience  <b>Fencing:</b> A form of sword-fighting  <b>The Globe:</b> The London theatre famous for staging Shakespeare's plays  <b>Armada:</b> A large number of naval ships  <b>Portrait:</b> A painting of an individual designed to capture their likeness  <b>Symbolism:</b> Using one thing to represent another  <b>Regal:</b> Royal</p>	01

**1577-1580:** Francis Drake circumnavigates the globe in his ship The Golden Hind  
**1588:** The English defeat The Spanish Armada's attempt to invade  
**1603:** The death of Elizabeth I and coronation of King James I  
**1605:** Guy Fawkes is captured and The Gunpowder Plot is foiled  
**1625:** Charles I becomes King  
**1642:** The English Civil War begins  
**1649:** Charles I is executed  
**1649-1658:** Oliver Cromwell rules as 'Lord Protector'  
**1660:** Charles II returns from exile and becomes King of England

**Prestige:** A powerful reputation based upon achievement  
**Circumnavigation:** To sail around the world  
**Piracy:** To illegally capture the cargo of a ship for profit  
**Invasion:** To attack and enter a foreign country  
**Sabotage:** To intentionally destroy damage or disrupt  
**Beacons:** Flaming torches designed to act as a signal / warning  
**Crescent formation:** A curved arrangement (of ships on the sea)

**Baptism:** A ceremony to welcome someone (usually a young child) into the Christian Church  
**Plantation:** A huge farm that grows one crop (typically sugar, cotton or tobacco)  
**Slavery:** The business of capturing and owning human beings  
**Transatlantic:** Crossing the Atlantic Ocean  
**Middle Passage:** The journey from Africa to the Americas made by slave ships  
**Panama:** A country linking Central and South America  
 **Hinterlands:** The remote areas of a country away from the coast or the banks of major rivers  
**Mule train:** A line of mules carrying goods or riders  
**Interpreter:** Someone who translates between those who do not speak the same language  
**Magellan straits:** A sailing route between the Atlantic and Pacific oceans  
**Cimarrons:** Africans who escaped slavery in the Americas

**Taxation:** Money paid to the government to fund the running of the country  
**Civil War:** A war fought between armies from the same country  
**Divine Right:** The belief that the King or Queen of England is chosen by God  
**Ship money:** Money (tax) to fund the navy in times of war  
**Grand Remonstrance:** A list of complaints produced by parliament and presented to King Charles I  
**Mutiny:** To turn against those in power  
**Victuals:** Food  
**Cavalier:** A soldier who fought on the side of the King during the Civil War  
**Roundhead:** A soldier who fought for parliament during the Civil War  
**Musketeer:** A soldier who used a gun (musket)  
**Pikeman:** A soldier who used a long spiked stick (a pike)

**Vindictive:** Cruel, unkind and spiteful  
**Victim:** Someone treated cruelly and unfairly by another  
**Sentence:** The punishment given by a judge following a trial if the defendant is found guilty  
**Verdict:** The decision of a jury as to whether a defendant is guilty or not guilty  
**Massacre:** A mass murder  
**Hypocrite:** Someone who does not behave as s/he orders others to  
**Lord Protector:** The title that Oliver Cromwell gave himself to replace that of King of England  
**Interregnum:** 'Between Kings'. The years 1649-1660.  
**Major-General:** A military leader who was loyal to Oliver Cromwell during his rule

Year 7 JBACC Cycle Three - Healthy Habits/LORIC Skills

Week 1 & 2 - Healthy Habits and Wellbeing	Week 3 & 4 Personal Hygiene and Puberty	Week 5 & 6 - Internet Safety
<p><b>Habit:</b> Something we do consistently, usually without thinking. Habits can be healthy or unhealthy.</p> <p><b>Diet:</b> The food we eat every day. It is important to have a balance diet.</p> <p><b>Stress:</b> A state of mental or emotional strain resulting from difficult or demanding circumstances.</p> <p><b>Anxiety:</b> A feeling of unease, worry or fear. We will all feel anxious at some points in our lives, however long term anxiety can be something that we need to seek help with.</p> <p><b>Stigma:</b> If something has a stigma attached to it, people think it is something to be ashamed of.</p>	<p><b>Personal Hygiene:</b> Conditions or practices conducive to maintaining health and preventing disease, especially through cleanliness.</p> <p><b>Bacteria:</b> Microorganisms which live on surfaces all around us. Many are harmless or even beneficial, but some are harmful if they get into your body. Good hygiene and regular hand washing can prevent harmful bacteria from getting into your body through food or touching.</p> <p><b>Puberty:</b> The process of physical changes through which a child's body matures into an adult body capable of sexual reproduction.</p> <p><b>Body image:</b> How you see yourself when you look in the mirror or when you picture yourself in your mind.</p>	<p><b>Kooth:</b> An online mental health resource. You can find information about mental health and speak to advisors using the Kooth website.</p> <p><b>Screen time:</b> The amount of time spent using computers or mobile devices. Excessive screen time can be unhealthy.</p> <p><b>Online safety:</b> Keeping yourself and your personal information safe online.</p> <p><b>Social media:</b> Computer-based technology where people share ideas, thoughts and information and build virtual networks and communities e.g. Instagram, Facebook, Twitter etc.</p>
WEEK 7 & 8 - Internet Safety	WEEK 9 & 10 - LORIC skills	ASSESSMENT TECHNIQUE
<p><b>Grooming:</b> When someone builds a relationship, trust and emotional connection with a young person so they can manipulate, exploit or abuse them.</p> <p><b>Fake News:</b> False or misleading information presented as news.</p> <p><b>Conspiracy:</b> A secret plan by a group to do something illegal or harmful.</p> <p><b>Cyber bullying:</b> Use of technology to harass, threaten, embarrass or target another person.</p> <p><b>Harassment:</b> unwanted behaviour which you find offensive or which makes you feel intimidated or humiliated.</p>	<p><b>Leadership:</b> The ability to lead a group or organisation, to take charge in a situation or to inspire others.</p> <p><b>Organisation:</b> The ability to plan and use our time effectively. This can include being prepared for tasks and completing them on time.</p> <p><b>Resilience:</b> Being able to recover from difficulties and keep working towards a goal even if it is difficult.</p> <p><b>Initiative:</b> The ability to think for ourselves and try things even if we are not sure we will succeed.</p> <p><b>Communication:</b> The ability to share information and ideas with people. This includes listening to what others have to say.</p>	<p>The perfect 12-marker:</p> <p><b>Paragraph 1* - AGREES</b> with the statement Point, Evidence, Explanation, Link</p> <p><b>Paragraph 2* - DISAGREES</b> with the statement Point, Evidence, Explanation, Link</p> <p><b>Paragraph 3 - CONCLUSION</b> Overall, I think... I think this because...</p> <p>*One of these paragraphs will include an EVALUATION of the argument This is a strong/weak argument because...</p>

# Maths - Sparx

## Expectations:

Sparx homework is set at 2pm each Monday

50% of the compulsory and target tasks need to be completed by 7.30am on Thursday morning. Failure to do so will result in an invitation to a compulsory Sparx catch up session facilitated by maths staff after school from 3-4pm each Monday until work is up to date.

100% completion is expected by Monday morning at 7.30am. This work will be checked by your teacher during the day. Failure to complete the work/incomplete book work (including workings) /workings for outstanding historical homework will result in an after school detention for 1 hour on the same day (Monday) between 3-4pm.

General support sessions for homework are held in the library (check relevant days for your year group).

Sparx only support sessions are held on a Thursday after school on the Maths corridor. Students can receive additional Sparx support by watching the attached videos in full, followed by requesting their Maths teacher's assistance (please ensure you have already attempted the question and give adequate lead time to receive help before the deadline on Monday - i.e. before break time on Friday).

Sparx Coordinator: Mrs Pugh (AJP)

Action	When
Homework set for all year groups	14:00 Monday
50% Compulsory <b>AND 50% TARGET</b> completed or compulsory catch up issued	07:30 Thursday
Homework due. Any incomplete work results in a detention after school 3-4pm. Parents are contacted by admin team and notified about detention.	07:30 Monday

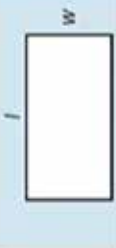
Homework

Thursday 1<sup>st</sup> June 2024

Task 1	Task 2
D40 $12 + 13 = \underline{25}$ ✓	E41 $P(\text{yellow}) = \frac{3}{6}$ ✗
E50 $4 \times 3 + 2 \times 5 =$ $12 + 10 = \underline{22}$ ✓	F51 $P(\text{black}) = \frac{4}{8}$ $= \frac{1}{2}$ ✓
F60 $\begin{pmatrix} 12 : 18 \\ 2 : 3 \end{pmatrix} \div 6$ ✓	G61 All the marbles are green. The probability of choosing a purple marble is <u>impossible</u> ✓
H70 $\frac{1}{14} + \frac{1}{7} = \frac{1}{7}$ ✗	H71 $P(\text{odd}) = \frac{3}{5}$ ✓
J90 $\frac{1}{8} + \frac{1}{4} = \frac{1}{8} + \frac{2}{8}$ $= \frac{3}{8}$ ✓	

**Areas**

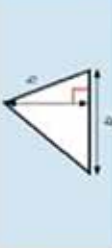
Rectangle =  $l \times w$



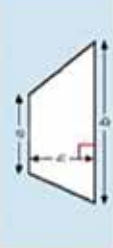
Parallelogram =  $b \times h$



Triangle =  $\frac{1}{2} \times b \times h$



Trapezium =  $\frac{1}{2} (a + b)h$



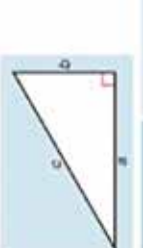
**Circles**

Circumference =  $\pi \times \text{diameter} = \pi d$   
 $2 \times \pi \times \text{radius} = 2\pi r$



**Right-angled triangles**

Pythagoras' Theorem  
 For a right-angled triangle,  
 $a^2 + b^2 = c^2$

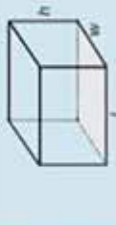


Trigonometric ratios (new to F)  
 $\sin x^\circ = \frac{\text{opp}}{\text{hyp}}$ ,  $\cos x^\circ = \frac{\text{adj}}{\text{hyp}}$ ,  $\tan x^\circ = \frac{\text{opp}}{\text{adj}}$



**Volumes**

Cuboid =  $l \times w \times h$



Prism =  $\text{area of cross section} \times \text{length}$

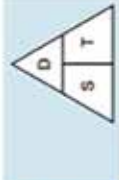


Cylinder =  $\pi r^2 h$

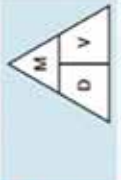


**Compound measures**

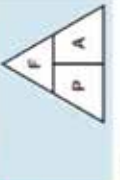
Speed =  $\frac{\text{distance}}{\text{time}}$



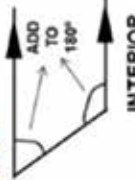
Density =  $\frac{\text{mass}}{\text{volume}}$



Pressure =  $\frac{\text{force}}{\text{area}}$



**Angles formed by parallel lines**



**Foundation Formula Quiz**

**Constructing Pie Charts**

The angle to draw for each sector is

$\text{Angle} = \frac{\text{frequency}}{\text{total}} \times 360^\circ$

Angles in Polygons

Sum of Interior Angles =  $(n - 2) \times 180^\circ$

Where n is the number of sides of the shape

Exterior Angles add up to  $360^\circ$

One exterior angle in a REGULAR polygon =  $\frac{360^\circ}{n}$

Interior + Exterior =  $180^\circ$

**Other useful formulae**

gradient =  $\frac{\text{change in } y}{\text{change in } x}$

% change =  $\frac{\text{difference}}{\text{original}} \times 100$

**Types of numbers**

**SQUARE NUMBERS**

→ 1, 4, 9, 16, 25, 36, 49, 64, 81, 100 etc  
(1x1) (2x2) (3x3) (4x4) (5x5) (6x6) (7x7) (8x8) (9x9) (10x10)

**CUBE NUMBERS**

→ 1, 8, 27, 64, 125 etc  
(1x1x1) (2x2x2) (3x3x3) (4x4x4) (5x5x5)

**PRIME NUMBERS**

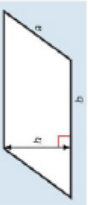
→ 2, 3, 5, 7, 11, 13, 17, 19, 23, 29 etc



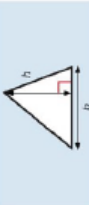
Year 7 Maths Cycle Three - Higher Formula Quiz

Areas

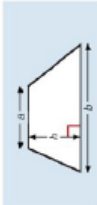
Parallelogram =



Triangle =




Trapezium =




Circles

Circumference =



Area of a circle =

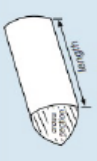


Area of a Sector  
 $A =$

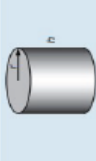
Length of an Arc  
 $A =$

Volumes

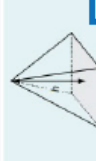
Prism =



Cylinder =



Volume of pyramid =



Angles in Polygons

Sum of Interior Angles =

Where  $n$  is the number of sides of the shape

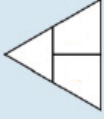
Exterior Angles add up to

One exterior angle in a REGULAR polygon =


Interior + Exterior =

Compound measures

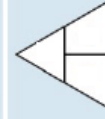
Speed =



Density =




Pressure =



Right-angled triangles

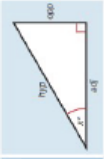
Pythagoras' Theorem

For a right-angled triangle,

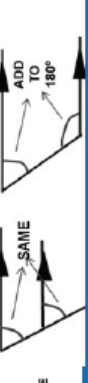


Trigonometric ratios (new to F)

$\sin x^\circ =$    $\cos x^\circ =$    $\tan x^\circ =$



Angles formed by parallel lines



ADD TO 180°

SAME

SAME

Quadratic equations

The Quadratic Equation  
To solve a quadratic equation in the form:  
 $ax^2 + bx + c = 0$

Indices and surds

$a^0 =$    $a^2 =$

$a^{-n} =$    $a^n =$

$\sqrt{a \times b} =$

$\sqrt{\frac{a}{b}} =$

Straight lines

gradient =

Given a gradient of a line  $m$ , the gradient of the line perpendicular to it is:

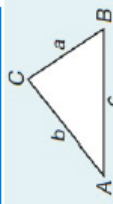
Perpendicular gradients multiply to give

Trigonometric formulae

Sine Rule

Cosine Rule

Area of triangle =



$x$	$0^\circ$	$30^\circ$	$45^\circ$	$60^\circ$	$90^\circ$
$\sin x$					
$\cos x$					
$\tan x$					

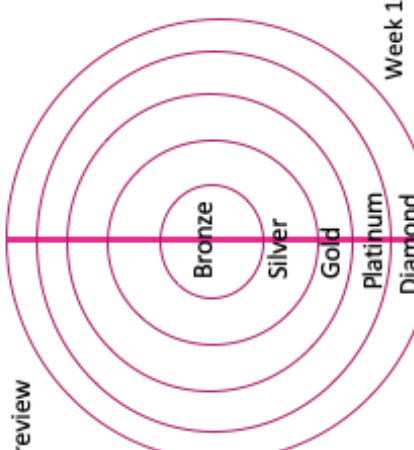
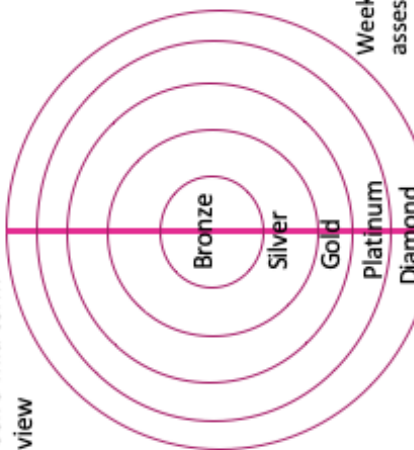
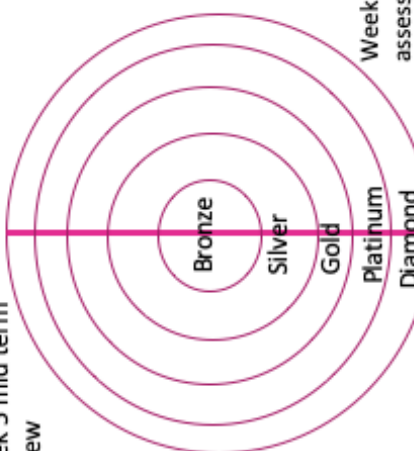

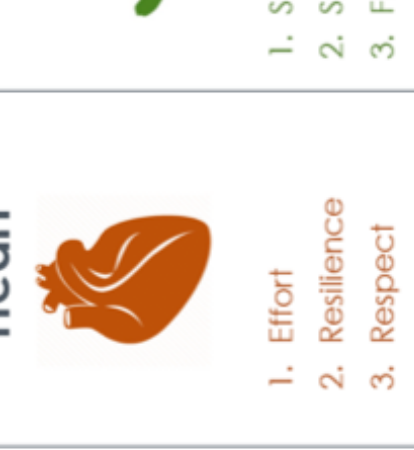




Year 7 Music Cycle Three		
Week 1	Week 3	Week 5
<p><b>FILM MUSIC KEY WORDS</b></p> <p><b>Compose</b> - to write music of your own.</p> <p><b>Atmosphere</b> - the tone or mood of something.</p> <p><b>Diegetic music</b> - Music that exists within the film and the characters respond to.</p> <p><b>Non-diegetic music</b> - music that only the audience can hear. Often known as....</p> <p><b>Leitmotif</b> - a short musical idea that represents a character or a place.</p> <p><b>Underscoring</b> - the music in the background of a film that creates the atmosphere.</p> <p><b>Mickey mousing</b> - where the music mimics what happens on screen in a funny way.</p>	<p><b>FILM MUSIC KEY WORDS</b></p> <p><b>Instrumentation</b> - the choice of instruments and sounds used by a composer.</p> <p><b>Dynamics</b> - how loud or quiet music is.</p> <p><b>Texture</b> - how many layers the music has. Whether it is thick or thin.</p> <p><b>Major</b> - when the music sounds happy</p> <p><b>Minor</b> - when the music sounds sad</p> <p><b>Consonant</b> - chords or melody that sound nice together (in the same key or chord)</p> <p><b>Dissonant</b> - music or notes that clash and sound crunchy</p>	<p><b>MUSIC TECHNOLOGY KEYWORDS</b></p> <p><b>DAW</b> - Digital Audio Workstation. Software which allows you to sample, sequence and use virtual instrument to create music.</p> <p><b>Sampling</b> - The recording of sounds (samples) for use in a piece of music. Examples include James Brown's drumbeats being sampled and reused in hip hop songs.</p> <p><b>Sequencing</b> - Using a DAW to arrange audio files into a piece of music.</p> <p><b>Virtual Instruments</b> - Computer program which make sounds like a real instrument e.g. violin.</p> <p><b>MIDI</b> - A way for electronic instruments to talk to each other (including computers).</p>
Week 6	Week 8	Week 10
<p><b>Improvisation</b> - making up musical ideas on the spot, often in a given framework (blues chord sequence)</p> <p><b>Chord</b> - 2 or more notes played at the same time.</p> <p><b>Bass line</b> - a line of single notes one after the other played at a low pitch, related to the chord sequence.</p> <p><b>Structure</b> - how music is arranged from start to finish (sections are small parts of the whole structure - for example chorus)</p> <p><b>Melody</b> - the main tune of the song (often the lyrics in pop songs)</p> <p><b>Tempo</b> - how fast or slow the music is (the speed)</p> <p><b>Dynamics</b> - How loud or quiet the music is (the volume)</p> <p><b>Texture</b> - How many layers of sound are in the music (thick or thin - for lots or not many)</p> <p><b>Pitch</b> - how high or low the note is</p>	<p><b>STRUCTURE OF A SONG</b></p> <p><b>Intro</b> - the beginning of the song, usually starts with a thin texture and builds up into the verse</p> <p><b>Verse</b> - Plays before the chorus, helps to lead up to the main musical idea (the riff or hook).</p> <p><b>Chorus</b> - The main section of the song, includes the leading musical riff (this could be your melody). Thick texture.</p> <p><b>Bridge</b> - Plays before the last chorus, includes a different musical idea (different melody/riff or chords). Helps break up the other</p>	<p><b>TIPS FOR GOOD GROUP/ENSEMBLE WORK</b></p> <ul style="list-style-type: none"> <li>• Eye contact with your group leader and good communication</li> <li>• Listening to your own part and how it fits in with others</li> <li>• Enthusiasm and commitment</li> <li>• Concentration/focus</li> <li>• Improvisation when called upon/your turn</li> </ul>

Year 7 Physical Education Cycle Three

**PE Assessment**

In PE we assess using Head, Heart, Hands. Across the year you will self assess along with being given a summative level. At the end of term we will spend time to reflect each area and then using the assessment wheel (below) you will shade in your current level for each of the 3 stands in PE. Once you have completed this reflect on the following three questions:

1. What level am I currently at?
2. Where do I want to be?
3. How do I get there?

<p><b>Week 5 mid term review</b></p>  <p><b>Week 5 mid term review</b></p>	<p><b>Week 5 mid term review</b></p>  <p><b>Week 5 mid term review</b></p>	<p><b>Week 5 mid term review</b></p>  <p><b>Week 5 mid term review</b></p>
<p><b>Week 10 Self assessment</b></p>  <p><b>Week 10 Self assessment</b></p>	<p><b>Week 10 Self assessment</b></p>  <p><b>Week 10 Self assessment</b></p>	<p><b>Week 10 Self assessment</b></p>  <p><b>Week 10 Self assessment</b></p>
<p><b>Head</b></p>  <ol style="list-style-type: none"> <li>1. Leadership</li> <li>2. Knowledge</li> <li>3. Analysis</li> <li>4. Decision Making</li> <li>5. Tactical</li> </ol>	<p><b>Heart</b></p>  <ol style="list-style-type: none"> <li>1. Effort</li> <li>2. Resilience</li> <li>3. Respect</li> <li>4. Motivation</li> <li>5. Commitment</li> </ol>	<p><b>Hands</b></p>  <ol style="list-style-type: none"> <li>1. Skill Development</li> <li>2. Skill Application</li> <li>3. Fitness Levels</li> <li>4. Technique</li> <li>5. Competitive</li> </ol>

Year 7 Physical Education Cycle Three - Knowledge and Understanding				
Week 1	Week 2	Week 3	Week 4	Week 5
<p><b>PE, SPORTS AND PHYSICAL ACTIVITY</b></p> <p><b>Sport</b> - Sport is the structured learning that takes place beyond the curriculum (i.e. in the extended curriculum) within school settings.</p> <p><b>Physical Education</b> - Physical Education is the planned, progressive learning that takes place in school curriculum timetable time and which is delivered to all pupils.</p> <p><b>Physical Activity</b> - Physical Activity is a broad term referring to all bodily movement that uses energy. It includes all forms of physical education, sports and dance activities.</p> <p><b>Questions:</b></p> <ul style="list-style-type: none"> <li>» How is PE different to sport and physical activity?</li> <li>» How can PE support you in sport and physical activity?</li> </ul> <p>Please answer all questions in your KO books.</p>	<p><b>FITNESS</b></p> <p><b>Fitness</b> - Fitness is your physical ability to meet the demands of your environment.</p> <p><b>Questions:</b></p> <ul style="list-style-type: none"> <li>» How did your fitness help or hinder your performance in that activity?</li> <li>» How did you demonstrate fitness a recent PE lesson?</li> <li>» Why is maintaining fitness important in life?</li> <li>» What else can you do outside of PE to maintain or improve fitness</li> </ul> <p><b>Extension question:</b></p> <ul style="list-style-type: none"> <li>» What is more important Fitness or Skill?</li> <li>» Can you be physically fit but not healthy? If so provide explanation.</li> </ul>	<p><b>PHYSICAL BENEFITS</b></p> <p><b>Practice</b> - If you are regularly physically active, you may; reduce your risk of a heart attack, manage your weight better; have a lower blood cholesterol level, lower the risk of type 2 diabetes and some cancers, have lower blood pressure, have stronger bones, muscles and joints and lower risk of developing osteoporosis, recover quicker; feel better - with more energy, a better mood, feel more relaxed and sleep better.</p> <p><b>Questions:</b></p> <ul style="list-style-type: none"> <li>» What are the long-term physical benefits of being physically active?</li> <li>» How can PE help you maintain and improve your physical health?</li> <li>» What can you do outside of PE to maintain and improve your physical health</li> </ul>	<p><b>MENTAL BENEFITS</b></p> <p><b>Mental Benefits</b> - Exercise may block negative thoughts or distract you from daily worries, exercising with others provides an opportunity for increased social contact, increased fitness may lift your mood and improve your sleep patterns, exercise may also change levels of chemicals in your brain, such as serotonin, endorphins and stress hormones.</p> <p><b>Questions:</b></p> <ul style="list-style-type: none"> <li>» What are the benefits of physical activity to mental health?</li> <li>» How can PE support your mental health?</li> <li>» What can you do outside of PE to support your mental health</li> </ul>	<p><b>SOCIAL BENEFITS</b></p> <p><b>Social Benefits</b> - According to the World Health Organisation (WHO) Social health is an important strand of overall health.</p> <p>More specifically, social health can be defined as:</p> <p>'our ability to interact and form meaningful relationships with others. It can also relate to how able we are to adapt in social situations.'</p> <p><b>Questions:</b></p> <ul style="list-style-type: none"> <li>» How can socialising through physical activity support your overall health?</li> <li>» How can you maintain positive relationships outside of PE?</li> </ul>

## Year 7 Spanish Cycle Three

Week	Spanish	English
1	Debo sacar la basura, aunque tú debes lavar la ropa.	I must take out the rubbish, although you must wash the clothes.
2	Los coches están fuera de la estación.	The cars are outside the station.
3	Somos morenos y locos, pero estamos felices.	We are dark-haired and crazy, but we are happy.
4	Normalmente, durante las vacaciones, viajo a la montaña.	Normally, during the holidays, I travel to the mountain.
5	El hombre quiere comer y beber.	The man wants to eat and drink.
6	A veces como la carne rica, pero nunca bebo el agua.	Sometimes I eat tasty meat, but I never drink water.
7	La mujer escribe la carta después de aprender el idioma.	The woman writes the letter after learning the language.
8	El hombre abre y responde al correo electrónico	The man opens and responds to the e-mail.
9	Mi llave está perdida en la calle. ¿Dónde están tus llaves?	My key is lost in the street. Where are your keys?
10	Voy a la playa sin mi móvil, y tú vas a Italia en enero.	I am going to the beach without my mobile phone, and you are going to Italy in January.

Each week you will need to practise and learn your Sentence of the Week as well as your Vocabulary of the Week. For your Vocabulary of the Week also pay attention to which type of words they are:

Verbs are in **VIOLET**

Feminine nouns are in **PINK**

Masculine nouns are in **BLUE**

Adjectives are in **GREEN**

Here you will find quizlet sets to help you to learn this language:



Week 1		Week 2		Week 3		Week 4		Week 5	
deber	must / have to	estamos	we are	somos	we are (permanent)	viajar	to travel/travelling	el hombre	man
debo	I must / have to	están	they are	moreno	dark-haired, dark-skinned, tanned (m)	disfrutar	to enjoy/enjoying	la cabeza	head
debes	you must / have to	el oeste	the West	morena	dark-haired, dark-skinned, tanned (f)	montar	to ride/riding	pensar	to think/thinking
debe	s/he must / has to	el este	the East	claro	light (colour), clear (m)	las vacaciones	holiday	amar	to love/loving
lavar	to wash/washing	la estación	station	clara	light (colour), clear (f)	la montaña	mountain	sin	without
sacar	to take out/taking out	el coche	car	oscuro	dark (m)	julio	July	beber	to drink/drinking
limpiar	to clean/cleaning	el tren	train	oscura	dark (f)	agosto	August	comer	to eat/eating
el suelo	floor	delante de	in front of	aburrido	boring (m)	Francia	France	leer	to read/reading
la basura	rubbish	detrás de	behind	aburrída	boring (f)	el mar	sea	vivir	to live/living
la ropa	clothes/clothing	debajo de	under/below	loco	crazy, insane (m)	durante	during	el ejercicio	exercise
organizar	to organise/organising	fuera de	outside of	feliz	happy	normalmente	normally		
aunque	although					cada	each/every		
otro	other/another (m)					de	off/from		
otra	other/another (f)					alto	tall/high		
si	if								
Week 6		Week 7		Week 8		Week 9		Week 10	
la fruta	fruit	aprender	to learn/learning	responder	to respond/responding	mi	my (singular)	ir	to go/going
la carne	meat	la mujer	woman	recibir	to receive/receiving	mis	my (plural)	voy	I go
rico	rich/tasty (m)	la carta	letter	abrir	to open/opening	tu	your (singular)	vas	you go
rica	rich/tasty (f)	el idioma	language	el correo	mail	tus	your (plural)	va	s/he / it goes
el agua	water	el parque	park	electrónico	electronic (m)	el móvil	mobile phone	al	to the (m,s)
nunca	never	después (de)	after/afterwards	electrónica	electronic (f)	la llave	key	el barrio	neighbourhood
a veces	sometimes	siempre	always	el mensaje	message	perdido	lost (m)	el problema	problem
correr	to run/running	el chino	Chinese	el ordenador	computer	perdida	lost (f)	Italia	Italy
por	around/along	algo	something	la llamada	phone call	completamente	completely	la playa	beach
escribir	to write/writing			todo	all/every (m)	la calle	street	enero	January
				toda	all/every (f)	el niño	child/young boy	febrero	February
						la niña	child/young girl	sin	without
								el día	day

Year 7 Combined Science Cycle Three		
Sparx Science Homework	Week 1	Week 2
<p>All Science homework is set on Sparx Science (<a href="https://sparxscience.com/">https://sparxscience.com/</a>). The tasks go live every Friday morning at 8am and are expected to be <b>completed by 8am</b> the following <b>Friday morning</b>.</p> <p>Students have science slots in their homework timetable (twice per week, 15 minutes each). This is the suggested time to complete this work to help them with their time management. However they may complete the work at any other time during the week if they wish to.</p> <p>Sparx Science will set students different questions depending on their previous achievements, and the topics they need to learn. Therefore each student will have slightly different tasks to complete. We would like students to <b>complete 100%</b> of their tasks. However, if they are regularly taking longer than the timetable time to complete this work then they can talk to their Science teacher for support.</p> <p>Support is available from students' science teachers and through a support session every Wednesday after school in the Science corridor. Students can also attend homework club every day in the library if they need some help.</p> <p>Sparx Science is currently being trialled by St James so if you experience any issues with the platform, or have any feedback, please contact Rob Morse (<a href="mailto:rob.morse@stjameseterc.co.uk">rob.morse@stjameseterc.co.uk</a>).</p>	<p><b>ENERGY TRANSFER</b></p> <ol style="list-style-type: none"> <li><b>Conduction:</b> When part of a solid absorbs heat energy the atoms vibrate faster. These vibrations pass from atom to atom, transferring heat energy as they do.</li> <li>Metals are good <b>conductors</b>. Non-metals are poor conductors (<b>insulators</b>)</li> <li><b>Convection</b> is the flow of heat energy from a region of high temperature to a region of low temperature by movement of a fluid (gas or liquid)</li> <li><b>Radiation:</b> The transfer of heat energy from a region of high temperature to a region of low temperature by <b>infrared radiation</b></li> <li>Energy transfers can be reduced by <b>insulation</b></li> </ol>	<p><b>DENSITY CORE PRACTICAL</b></p> <p>Method A - regular shaped object</p> <ol style="list-style-type: none"> <li>Measure the mass of the object using a top pan balance.</li> <li>Measure the length, width and height of an object and calculate its volume: <math>l \times w \times h</math>.</li> <li>Density can be calculated as: Density (<math>\text{kg/m}^3</math>) = mass (kg) / volume (<math>\text{m}^3</math>)</li> </ol> <p>Method B - irregular shaped object</p> <ol style="list-style-type: none"> <li>Measure the mass of the object using a top pan balance.</li> <li>Add a known volume of water to a measuring cylinder.</li> <li>Submerge the object totally and record the volume of water displaced by the object.</li> <li>Calculate density as: Density (<math>\text{kg/m}^3</math>) = mass (kg) / volume (<math>\text{m}^3</math>)</li> </ol>
	<p><b>Week 3</b></p> <p><b>ACCELERATION</b></p> <ol style="list-style-type: none"> <li>Speed = distance / time</li> <li>Speed is measured in m/s</li> <li>Acceleration = (final velocity – initial velocity) / time</li> <li>Acceleration is measured in <math>\text{m/s}^2</math></li> <li>Newton's 2nd Law states that the acceleration of an object is related to the objects mass and the force applied to it.</li> <li>The Force, F, needed to accelerate, a, a mass, m, can be calculated as:  <math display="block">F \text{ (N)} = m \text{ (kg)} \times a \text{ (m/s}^2\text{)}</math> </li> </ol>	<p><b>Week 4</b></p> <p><b>ACCELERATION CORE PRACTICAL</b></p> <ol style="list-style-type: none"> <li>Place a trolley of known mass on a ramp.</li> <li>Set up a light gate at either end of the ramp, ensuring it will be interrupted by the trolley.</li> <li>Accelerate the trolley along the ramp using a pulley and falling weight.</li> <li>Using the light gates, record the trolley's initial and final acceleration along the ramp.</li> <li>Repeat steps 1-4, adding a known mass to the trolley each time.</li> <li>Use your data to describe the relationship between mass and acceleration.</li> </ol>

Year 7 Combined Science Cycle Three

Week 5

STRUCTURE OF AN ATOM

1. Scientists have worked out that atoms are made up of three smaller parts (called subatomic particles): **protons, neutrons and electrons**.
2. At the centre of atoms is a tiny **nucleus** containing protons and neutrons.
3. This is surrounded by fast moving **electrons** arranged in **electron shells**, at different distances from the nucleus.

Particle	Charge	Mass
Proton	+ 1	1
Neutron	0	1
Electron	- 1	1/1835

Week 6

USING THE PERIODIC TABLE

1. You can use a **periodic table** to find the number of **subatomic particles** each element has.
2. The **atomic mass number** = the number of **protons** and **neutrons**.
3. To find the **number of neutrons** in an atom subtract the atomic number from the atomic mass.
4. The **atomic number** = the number of protons and is also the same as the number of electrons. This is because all atoms have **no overall charge**.
5. Electrons are found on the **outer shells of an atom**.
6. The **1st shell** can only hold **2 electrons**.
7. The **2nd** and **3rd shell** can hold up to **8 electrons**.
8. When drawing electronic configuration we use a **X** to represent electrons.

Week 7

CHEMICAL REACTIONS:

1. For a chemical reaction to occur the reactant particles must **collide** or **'bump'** together with enough **energy** to react.
2. The minimum amount of energy needed for a reaction to occur is called its **activation energy**.
3. During **successful collisions** this energy helps to **break bonds**, to be able to make new substances (called **products**).
4. In general, reaction rates are increased when:
  - a. the **energy** of the collisions is increased (**by increasing temperature**)
  - b. the **frequency** is increased (**by increasing concentration or surface area**)
5. In a chemical reaction the things we start with before the reaction are called the **reactants** and the new substances made are called the products
6. When **iron** and **sulphur** react it's called iron sulphide. **Word equation** for this reaction: **Iron + sulphur - iron sulphide**

Week 8

RELATIVE FORMULA MASS

1. The **mass number** of an atom is the total number of **protons** and **neutrons** in an atom.
2. This mass number of an atom is called the **relative atomic mass** ( $A_r$ ) and be found by looking them up on the periodic table. It is always the greater of the two numbers.
3. The **relative formula mass** of a substance is all of the relative atomic masses of all the atoms in its formula added together.
4. It has the symbol  $M_r$  and it has no units - it is just a number.

Week 9

RESPIRATION:

1. **Respiration** is the chemical reaction which takes place in the cells. Its purpose is to **release energy**. It is an exothermic reaction.
2. **Aerobic respiration:**
  - a. Takes place in the **mitochondria** of cells
  - b. Releases a **large amount of energy**
  - c. **Glucose + oxygen - carbon dioxide + water**
3. **Anaerobic respiration:**
  - a. Takes place in the **cytoplasm** of cells
  - b. No oxygen is present
  - c. Less energy is released
  - d. **Lactic acid** is formed as a by-product, which causes muscle fatigue
  - e. **Glucose - lactic acid**

Week 10

PHOTOSYNTHESIS:

1. Carbon Dioxide + Water - Glucose + Oxygen
2. Photosynthesis occurs in **chloroplasts** which contain **chlorophyll** and it is an **endothermic reaction. It requires light energy**
3. **Photosynthesis** has three limiting factors:
  - a. **Temperature:** high **temperatures** cause the **enzymes** in the **chlorophyll** to **denature** so the reaction cannot take place.
  - b. **Light intensity:** light brings energy to the reaction. After a certain light intensity, the rate of photosynthesis remains constant.
  - c. **Carbon dioxide concentration:** carbon dioxide is a reactant of photosynthesis and therefore the more it has the quicker the reaction can take place. After certain concentrations, the rate of photosynthesis will remain constant.



Year 7 Food Technology Cycle Three		
Key Vocabulary	Week 1	Week 2
<ul style="list-style-type: none"> <li>» Hazard: Anything that can cause injury, food poisoning or an accident.</li> <li>» Cross contamination: where bacteria from one source for example raw meat, dirty hands, surfaces or equipment touches other food which is ready to eat.</li> <li>» Danger zone: the temperature zone between 5C and 63C where bacteria like to grow the most.</li> <li>» Allergen: a substance that causes an allergic reaction.</li> <li>» Bridge Hold: Bridge hold is a technique used when chopping food. The thumb and index finger are placed either side of the food item to hold it thus forming a kind of bridge shape. The knife is placed on the food item inside this 'bridge' thus ensuring a safe cutting technique.</li> <li>» Claw grip: This safe knife cutting technique ensure that fingertips are curled in and will not get caught by the knife.</li> <li>» Non-enzymic browning: This happens when a food is heated – it goes brown.</li> <li>» Nutrients: The chemicals found in food which are essential for life and health.</li> <li>» Macronutrients: Nutrients needed in large amounts by the body. Measured in grams (g)</li> <li>» Micronutrients: nutrients the body needs in small amounts. Measured in milligrams (mg) or micrograms (µg)</li> </ul>	<p><b>WHERE SHOULD FOOD BE STORED IN THE FRIDGE?</b></p> <p>Cheese, dairy and egg-based products</p> <ul style="list-style-type: none"> <li>» The temperature is usually coolest and at the top of the fridge.</li> </ul> <p>Cooked meats</p> <ul style="list-style-type: none"> <li>» Cooked meats should always be stored above raw meats to prevent contamination from raw meat.</li> </ul> <p>Raw meats and fish</p> <ul style="list-style-type: none"> <li>» Raw meats and fish should be below cooked meats and sealed in containers to prevent contamination of salad and vegetables.</li> </ul> <p>Salad and vegetables</p> <ul style="list-style-type: none"> <li>» These should be stored in the drawer(s) at the bottom of the fridge. The lidded drawers hold more moisture, preventing the leaves from drying out.</li> </ul>	<p><b>WHAT IS SENSORY EVALUATION?</b></p> <p>Sensory Evaluation is the analysis of the taste, smell, sound, feel and appearance of food.</p> <p>The words used to do this are called sensory descriptors e.g.</p> <ul style="list-style-type: none"> <li>» Appearance: colourful, attractive</li> <li>» Texture: crunchy, chewy, runny</li> <li>» Taste: bitter, sweet, salty, sour, umami</li> <li>» Sound: crunchy, snap, bubble, fizz and pop</li> <li>» Aroma: pungent, spicy, bland, rancid</li> </ul>
	Week 3	Week 4
	<p><b>SAFETY</b></p> <ul style="list-style-type: none"> <li>» Sharp knives: carry a knife by your side with the blade pointing down. Use the bridge hold and claw grip to cut safely.</li> <li>» Hot liquid: drain hot liquid carefully over the sink using a colander.</li> <li>» Saucepans: turn pan handles in from the edge, so they are not knocked.</li> <li>» Hot equipment: always use oven gloves when placing food in and out of the oven.</li> <li>» Spills: wipe up immediately.</li> <li>» Electrical equipment: always follow instructions.</li> </ul>	<p><b>ALLERGY AND INTOLERANCE</b></p> <p>There are 14 ingredients (allergens) that are the main reasons for adverse reactions to food. People who are allergic, or intolerant, to these ingredients should take care to avoid eating them. The 14 allergens are:</p> <ul style="list-style-type: none"> <li>» Peanuts</li> <li>» Sesame</li> <li>» Soybeans</li> <li>» Sulphur dioxide</li> <li>» Milk</li> <li>» Molluscs</li> <li>» Mustard</li> <li>» Nuts</li> <li>» Celery (inc Celeriac)</li> <li>» Cereals containing gluten</li> <li>» Crustaceans</li> <li>» Eggs</li> <li>» Fish</li> <li>» Lupin</li> </ul>

Year 7 Food Technology Cycle Three

Week 5

**FRUIT AND VEGETABLES**

Fruit and vegetables should make up just over a third of the food eaten each day.

Aim to eat at least five portions of a variety each day.

Choose from fresh, frozen, canned, dried or juiced.

A portion is around 80g (3 heaped tbs). 30g of dried fruit or 150ml glass of fruit juice or smoothie count as a max of 1 portion each day.

Try to eat a rainbow of different fruits and vegetables to get a variety of nutrients.

Week 6

Food Group	Nutrient (main)
Fruit and vegetables	Vitamins, e.g. Vitamin A and Vitamin C
Potatoes, bread, rice, pasta and other starchy carbohydrates	Carbohydrate
Beans, pulses, fish, eggs, meat and other proteins	Protein Minerals, e.g. Iron
Dairy and alternatives	Minerals, e.g. Calcium
Oil and spreads	Fat

Week 7

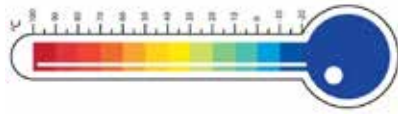
**TEMPERATURES TO REMEMBER**

To reduce the risk of food poisoning, good temperature control is vital: 5-63°C – the danger zone where bacteria grow most readily.

5°C (or below) – the ideal temperature your fridge should be.

75°C – if cooking food, the core temperature, middle or thickest part should reach at least this temperature.

75°C – if reheating food, it should reach at least this temperature.



Week 8

**THE EATWELL GUIDE**

Comprises 5 main food groups.

Is suitable for most people over 2 years of age.

Shows the proportions in which different groups of foods are needed in order to have a well-balanced and healthy diet.

Shows proportions representative of food eaten over a day or more.



Week 9

**FOODS HIGH IN FAT, SALT AND SUGAR**

Includes products such as chocolate, cakes, biscuits, full-sugar soft drinks, butter and ice cream.

Are high in fat, sugar and energy and are not needed in the diet.

If included, should be had infrequently and in small amounts.

Week 10

**FIBRE**

Dietary fibre is a type of carbohydrate found in plant foods.

Food examples include wholegrain cereals and cereal products; oats; beans; lentils; fruit; vegetables; nuts; and, seeds.

Dietary fibre helps to: reduce the risk of heart disease, diabetes and some cancers; help weight control; bulk up stools; prevent constipation; improve gut health.

The recommended average intake for dietary fibre is 30g per day for adults.

Year 7 Food Technology Cycle Three


Food Group	Nutrient (main)	Function
<b>Week 1 – Fruit and veg (Micro nutrients)</b>	<b>Vitamins, e.g. Vitamin A and Vitamin C</b>	Vitamin A is needed for night vision. Vitamin C is needed for the maintenance of healthy skin.
<b>Week 2 – Carbohydrates (Macro nutrients)</b>	<b>Carbohydrate</b>	Carbohydrate is the main source of energy for the body.
Potatoes, bread, rice, pasta and other starchy carbohydrates		
<b>Week 3 – Protein (Macro nutrients)</b>	<b>Protein</b> <b>Minerals, e.g. Iron</b>	Protein is needed for growth and repair. Iron is a mineral which is needed for healthy blood.
Beans, pulses, fish, eggs, meat and other proteins		
<b>Week 4 – Minerals (Micro nutrients)</b>	<b>Minerals, e.g. Calcium</b>	Calcium is a mineral which is needed for the growth and maintenance of strong bones and teeth.
Dairy and alternatives		
<b>Week 5 – Fat (Macro nutrients)</b>	<b>Fat</b>	Fat is needed for health, but in small amounts.
Oil and spreads		

**Water**

We need water to stay alive. Water is found in food and in drinks.

In addition to any water provided in the food we eat, such as fruit and vegetables, we also need at least 6-8 drinks every day – more when we are active or the weather is warm.

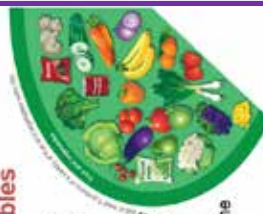


**Fruit and vegetables**

This food group provides a range of vitamins and fibre.

Vitamins are needed for general good health. Some vitamins have special jobs.


- Vitamin A is needed for night vision.
- Vitamin C is needed for the maintenance of healthy skin.



**Potatoes, bread, rice, pasta and other starchy carbohydrates**

This food group is the main source of carbohydrate.

Carbohydrate is the main source of energy for the body.




**Beans, pulses, fish, eggs, meat and other proteins**

This food group provides protein, as well as minerals.

Protein is needed for growth and repair.


One mineral needed is called iron. It is needed for healthy blood and helping to transport energy around the body.



**Dairy and alternatives**

This food group provides a range of minerals.


Calcium is a mineral which is needed for the growth and maintenance of strong bones and teeth.



**Oil and spreads**

Oil and spreads are types of fat.

Fat is needed for health, but in small amounts.




**Fibre**

Fibre helps keep the digestive system healthy.

Fibre can be found in food from the:


- Fruit and vegetable food group;
- Potatoes, bread, rice, pasta and other starchy carbohydrates food group;
- Beans, pulses, fish, eggs and meat food group (in the beans and pulses).



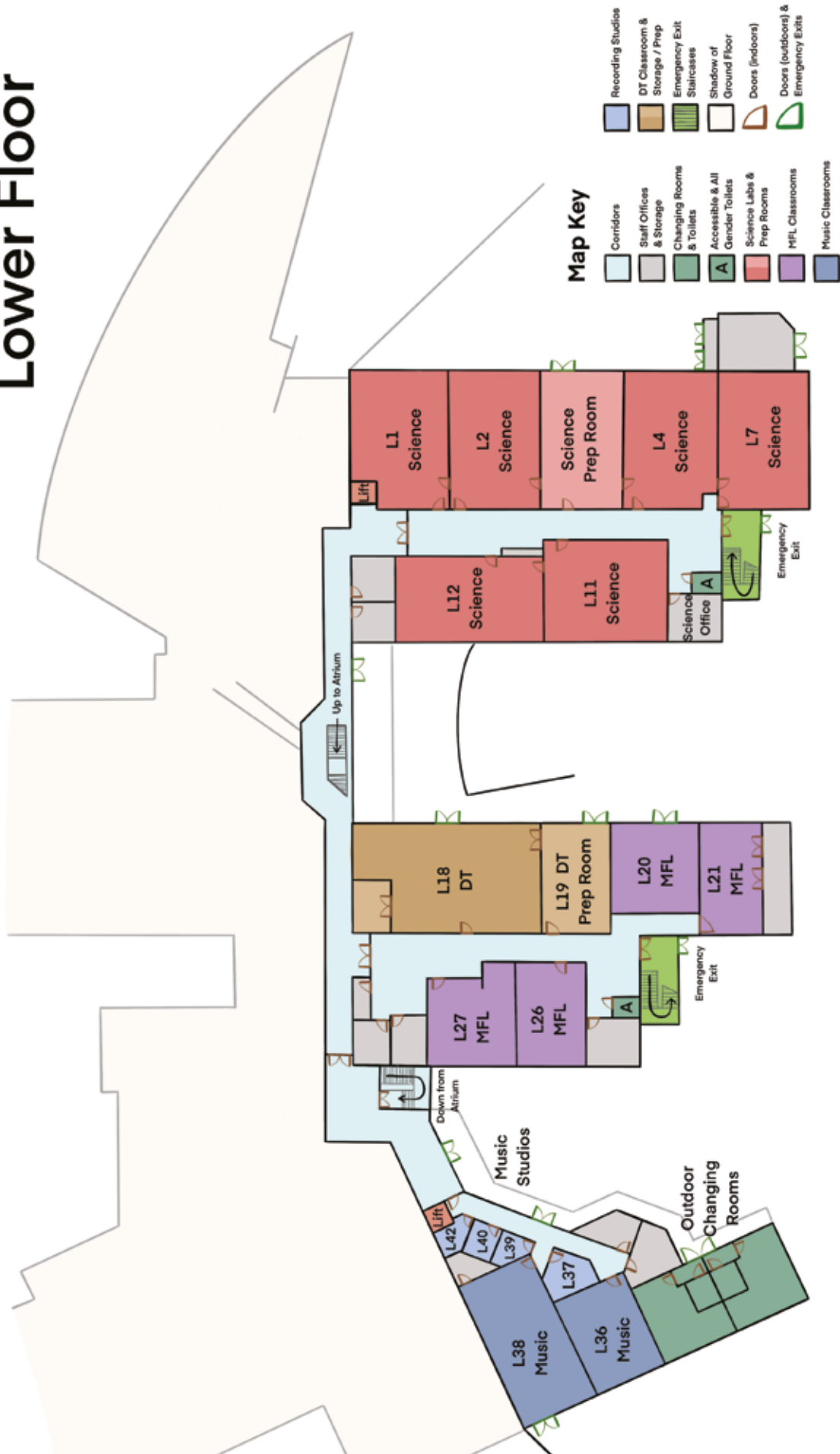
**Foods high in fat, salt and sugars**

The Eatwell Guide includes another group of foods that sit outside of the main image.















This group is the foods high in fat, salt and/or sugars. These foods are not needed in the diet so, if they are included, they should only be eaten infrequently and in small amounts.



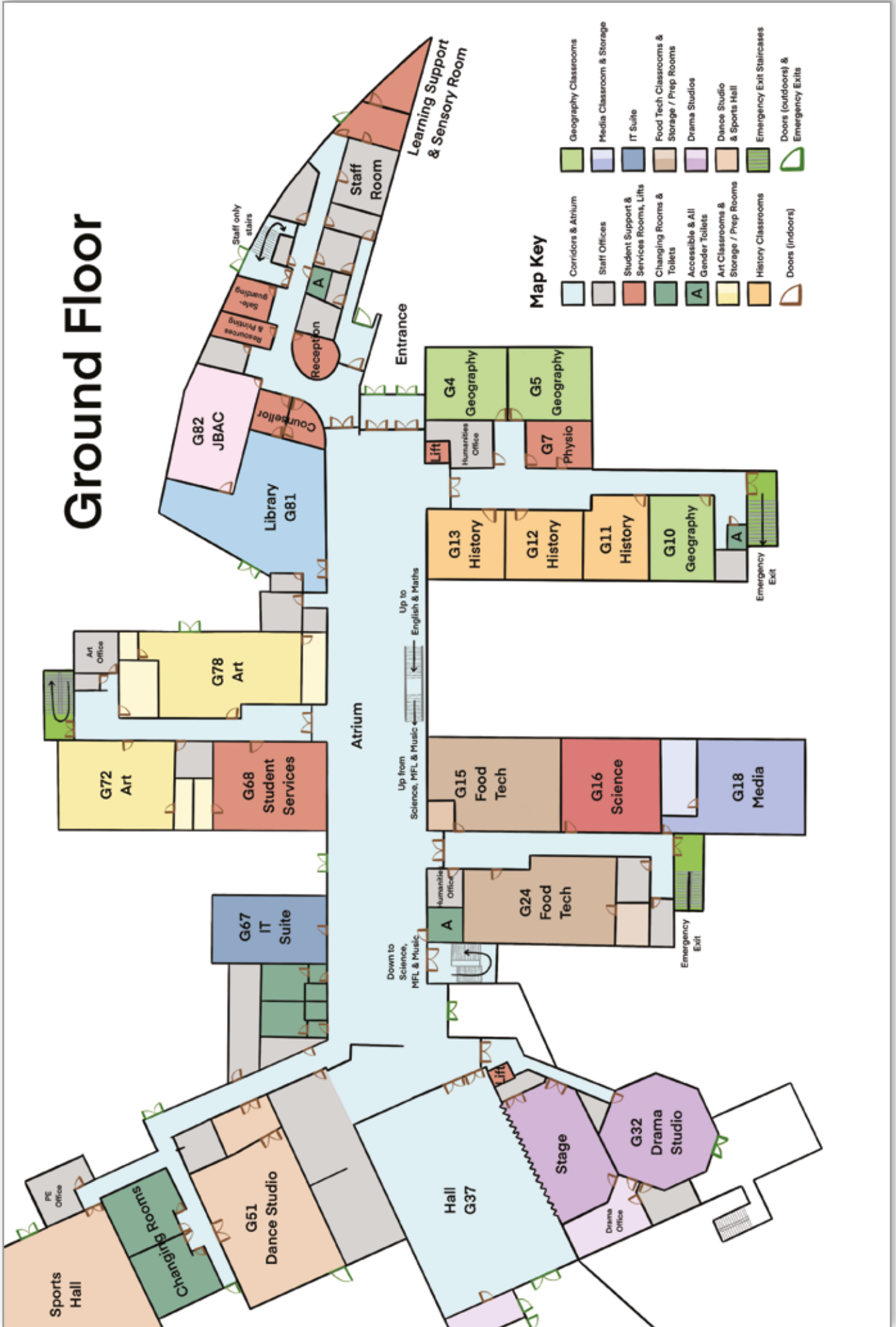
# Lower Floor



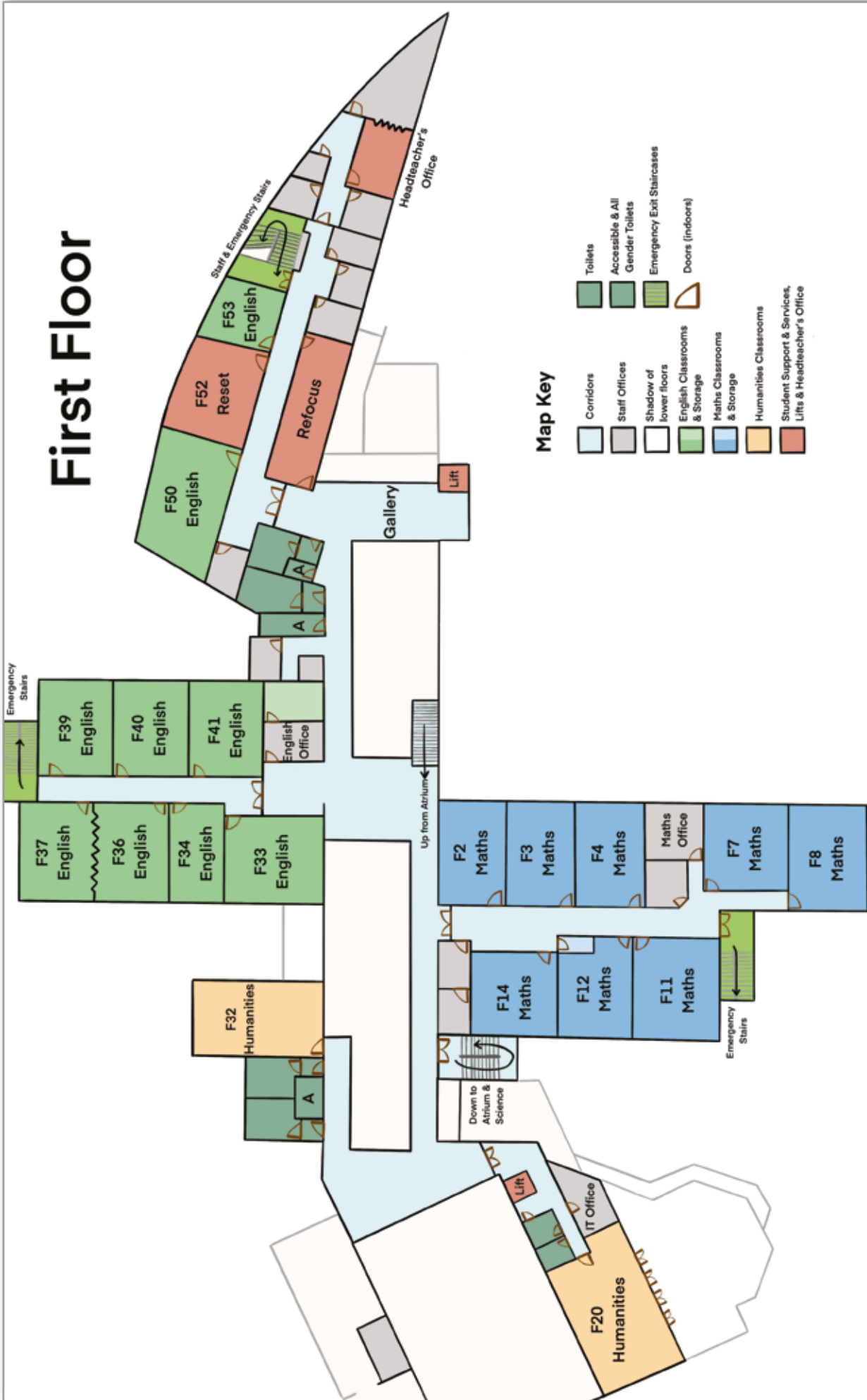
## Map Key

- |   |                                 |   |                                    |
|---|---------------------------------|---|------------------------------------|
|   | Corridors                       |   | Recording Studios                  |
|  | Staff Offices & Storage         |  | DT Classroom & Storage / Prep      |
|  | Changing Rooms & Toilets        |  | Emergency Exit                     |
|  | Accessible & All Gender Toilets |  | Staircases                         |
|  | Science Labs & Prep Rooms       |  | Shadow of Ground Floor             |
|  | MFL Classrooms                  |  | Doors (indoors)                    |
|  | Music Classrooms                |  | Doors (outdoors) & Emergency Exits |

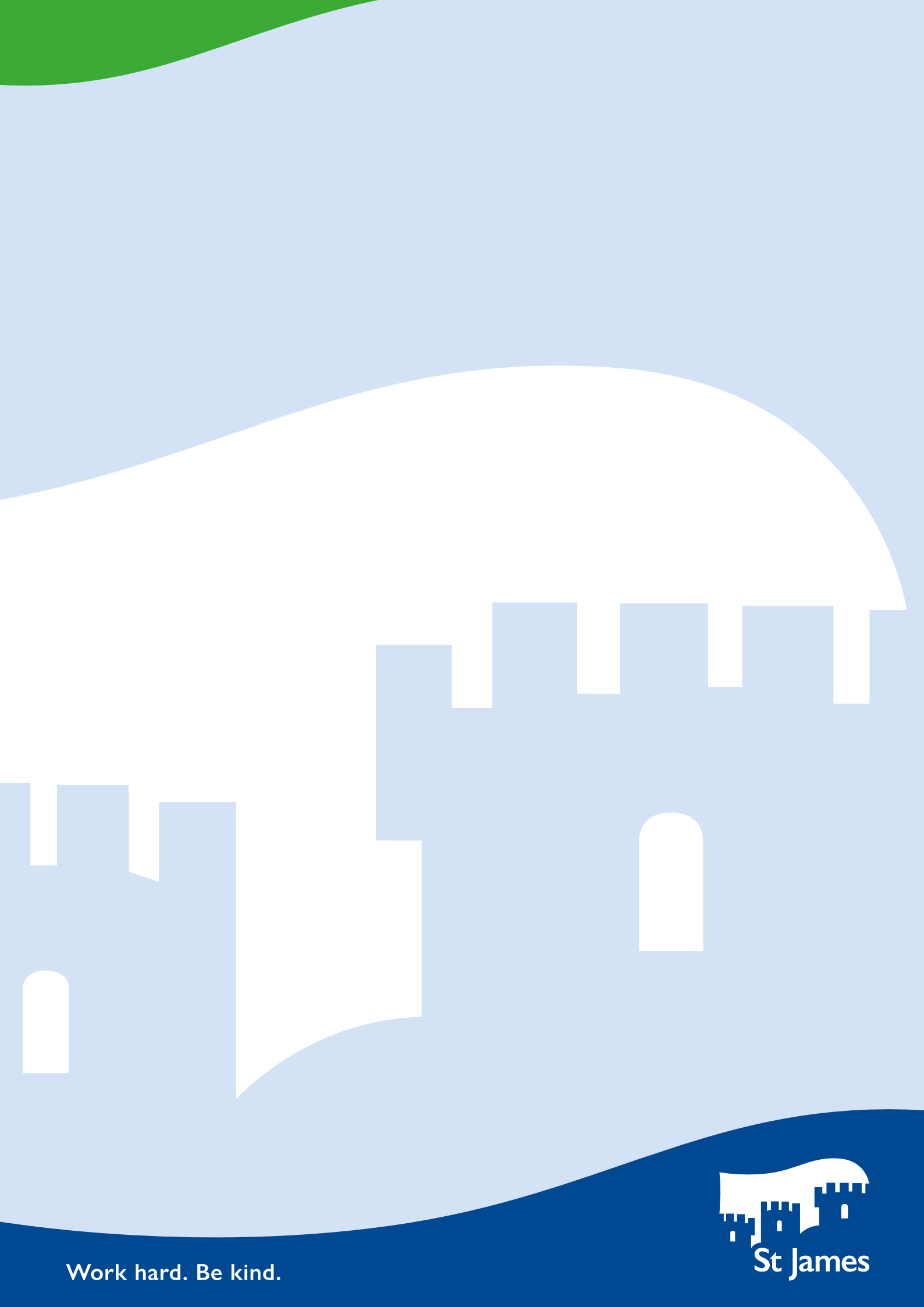
# Ground Floor



# First Floor







Work hard. Be kind.

